# APPENDIX A DISTRIBUTION LIST

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#### **Federal Government Agencies**

- Advisory Council on Historic Preservation, DC
- Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State, Alexander Yuan, DC
- Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, George Chandler, GA
- Committee on Energy and Natural Gas, U.S. Senate, DC
- Council on Environmental Quality, Ellen Athas, DC
- Council on Environmental Quality, Horst G. Greczmiel, DC
- Department of Conservation and Recreation, Chris Delaney, MA
- Division of Decision Support, Planning, and the National Environmental Policy Act, U.S. Department of the Interior, Bureau of Land Management, Marci Todd, DC
- Division of Decision Support, Planning, and the National Environmental Policy Act, U.S. Department of the Interior, Bureau of Land Management, Kerry Rodgers, DC
- Division of Emergency and Environmental Health Services, U.S. Department of Health and Human Services, National Center for Environmental Health, Sharunda Buchanan, GA
- Energy and Natural Resources Committee Office, Senator Mary Landrieu, DC
- Enforcement, Research and Special Programs Administration, Southwest Region, Houston Office, TX
- Environment and Natural Resources Division, Natural Resources Section, U.S. Department of Justice, Beverly Li, DC
- Environmental Planning and Compliance Branch, U.S. Department of the Interior, National Park Service, Patrick Walsh, CO
- Environmental Planning Division, U.S.

  Department of Housing and Urban
  Development, James M. Potter, DC

- Environmental Policy and Compliance, U.S. Department of the Interior, Vijai N. Rai, DC
- Minerals Management Service, U.S. Department of the Interior, DC
- National Forest System, U.S. Department of Agriculture, Forest Service, DC
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Regional Office, Mary Colligan, MA
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Chris Boelke, MA
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, U.S. Department of Commerce, Steve Leathery, MD
- National Oceanic and Atmospheric Administration, Program Planning and Integration, U.S. Department of Commerce, Steve Kokkinakis, MD
- National Park Service, David Clark, MA
- Natural Gas STAR, Environmental Protection Agency, Jerome Blackman, DC
- Natural Resources Management, U.S.

  Department of the Interior, Office of
  Environmental Policy and Compliance,
  David Sire, DC
- Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, Cynthia Giles, DC
- Office of Environmental Management, U.S. Department of Energy, Dave Huizenga, DC
- Office of Facilities, Environmental and Cultural Resources, U.S. Department of Interior, Bureau of Indian Affairs, Marvin Keller, VA
- Office of Federal Activities, U.S. Environmental Protection Agency, Cliff Rader, DC
- Office of Federal Activities, U.S. Environmental Protection Agency, Susan E. Bromm, DC
- Office of Habitat Protection, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, MD

#### Federal Government Agencies (cont'd)

- Office of Operating and Environmental Standards, U.S. Coast Guard, DC
- Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, CO
- Office of the Deputy Assistant Secretary of the Army, Environmental Safety and Occupational Health, Leslie Gillespie-Marthaler, DC
- Office of the Deputy Undersecretary of Defense, Installations and Environment, U.S. Department of Defense, Terry Bowers, DC
- Office of the Deputy Undersecretary of Defense, Installations and Environment, DC
- Office of the Deputy Undersecretary of Defense, Installations and Environment, Robert Uhich, DC
- Office of the Secretary, U.S. Department of Commerce, DC
- Operations Division (DAIM-ODO), Raven L. Howell, VA
- Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, GA
- Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, MO
- Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Jeffrey Wiese, DC
- Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Magdy El-Sibaie, DC
- Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Sherri Pappas, DC
- Program Planning and Integration, National Oceanic and Atmospheric Administration, MD
- Research and Special Programs Administration, U.S. Department of Transportation, Office of Pipeline Safety, DC

- Research and Special Programs Administration, U.S. Department of Transportation, Office of Pipeline Safety, DC
- Section of Environmental Analysis, U.S.

  Department of Transportation, Surface
  Transportation Board, Victoria
  Rutson, DC
- Surface Transportation Board, Office of Environmental Analysis, Victoria Rutson, DC
- U.S. Air Force, Steve Zanders, DC
- U.S. Army Corps of Engineers, New England District, Regulatory Division, Cori Rose, MA
- U.S. Army Corps of Engineers, New England District, Regulatory Division, Jennifer McCarthy, MA
- U.S. Army Corps of Engineers, New York
  District, Regulatory Division, Jun Yan,
  P.E., NY
- U.S. Army Corps of Engineers, New York District, Regulatory Division, Steve Ryba, NY
- U.S. Army Corps of Engineers, Office of the Chief of Army Engineers, DC
- U.S. Coast Guard, DC
- U.S. Coast Guard, Robert Papp, DC
- U.S. Customs and Border Protection,
  Department of Homeland Security,
  Christopher Oh, DC
- U.S. Department of Agriculture, Forest Service, Ecosystem Management Coordination, Joe Carbone, DC
- U.S. Department of Agriculture, Forest Service, DC
- U.S. Department of Agriculture, Natural Resources Conservation Service, John Matt Harrington, DC
- U.S. Department of Agriculture, Natural Resources Conservation Service, Barbara Miller, MA
- U.S. Department of Agriculture, Natural Resources Conservation Service, Donald Pettit, NY

#### Federal Government Agencies (cont'd)

- U.S. Department of Agriculture, Natural Resources Conservation Service, Lisa R. Coverdale, CT
- U.S. Department of Agriculture, Natural Resources Conservation Service, R. Phou Vongkhamdy, RI
- U.S. Department of Air Force, Basing and Units, U.S. Department of Defense, Jack Bush, DC
- U.S. Department of Energy, John Anderson, DC
- U.S. Department of Energy, Office of Environmental Compliance, DC
- U.S. Department of Energy, Office of Intergovernmental Affairs, Carol M. Borgstrom, DC
- U.S. Department of Health and Human Services, Edward Pfister, DC
- U.S. Department of Homeland Security, U.S. Coast Guard, Ed Wandelt, DC
- U.S. Department of Justice, Land and Natural Resources Division, DC
- U.S. Department of Labor, Office of Regulatory Economics, DC
- U.S. Department of State, John Matuszak, DC
- U.S. Department of Transportation, DC
- U.S. Department of Transportation, Pipeline and Hazardous Materials Safety
  Administration, Office of Pipeline Safety, Community
  Assistance/Technical Services, CO
- U.S. Environmental Protection Agency, Judith Enck, NY
- U.S. Environmental Protection Agency, Office of Federal Activities, Robert Hargrove, DC
- U.S. Environmental Protection Agency, Region 2, Lingard Knutson, NY
- U.S. Environmental Protection Agency, Region 1, Air Program Branch, Anne Arnold, MA
- U.S. Environmental Protection Agency, Region 1, Office of Environmental Review, Timothy Timmerman, MA
- U.S. Fish and Wildlife Service, David Stilwell, NY

- U.S. Fish and Wildlife Service, Department of the Interior, Pat Carter, VA
- U.S. Fish and Wildlife Service, New England Field Office, Tom Chapman, NH
- U.S. Fish and Wildlife Service, New York Field Office, Robyn Niver, NY
- U.S. Forest Service, Farm Service Agency, Matthew Ponish, DC
- U.S. Geological Survey, Department of the Interior, Esther Eng, VA
- U.S. Nuclear Regulatory Commission, Allison M. Macfarlane, DC
- U.S. Nuclear Regulatory Commission, Douglas Pickett, MD
- U.S. Nuclear Regulatory Commission, Region I, PA

#### **Federal Senators and Representatives**

- U.S. House of Representatives, Community Liaison, Matthew Abdifar, CT
- U.S. House of Representatives, Congressman David Cicilline, DC
- U.S. House of Representatives, Congressman Jim Langevin, DC
- U.S. House of Representatives, Congressman Joe Courtney, DC
- U.S. House of Representatives, Congressman John Larson, DC
- U.S. House of Representatives, Congressman Michael Michaud, DC
- U.S. House of Representatives, Congressman, Jim Himes, DC
- U.S. House of Representatives, Congresswoman Elizabeth Esty, DC
- U.S. House of Representatives, Congresswoman Rosa DeLauro, DC
- U.S. House of Representatives, Director of District Operations, Russell W. Griffin, CT
- U.S. House of Representatives, District Director to Congressman Joe Courtney, Jenny Contois, CT
- U.S. House of Representatives, District Office of Congresswoman Elizabeth Esty, Samantha Pillion, CT

#### <u>Federal Senators and Representatives</u> (cont'd)

- U.S. House of Representatives, Office of Congressman John Larson, John Rossi, CT
- U.S. House of Representatives, Office of Congressman Maloney, Director, Ed Brancati, NY
- U.S. House of Representatives, Office of Congresswoman Nita M. Lowey, District Director, Patricia Keegan, NY
- U.S. House of Representatives, Staff to Congressman David Cicilline, RI
- U.S. Senate, Office of Senator Jack Reed, Legislative Assistant, Diana Bowen, DC
- U.S. Senate, Senator Angus S. King, Jr., DC
- U.S. Senate, Senator Charles Schumer, DC
- U.S. Senate, Senator Chris Murphy, DC
- U.S. Senate, Senator Jack Reed, DC
- U.S. Senate, Senator Jeanne Shaheen, DC
- U.S. Senate, Senator Kelly Ayotte, DC
- U.S. Senate, Senator Kirsten Gillibrand, DC
- U.S. Senate, Senator Richard Blumenthal, DC
- U.S. Senate, Senator Sheldon Whitehouse, DC
- U.S. Senate, Senator Susan Collins, DC
- U.S. Senate, Staff to Senator Reed, RI
- U.S. Senate, Staff to U.S. Senator Whitehouse, RI

#### **State Senators and Representatives**

- Assembly District Connecticut 88, Assemblywoman Amy Paulin, NY
- Connecticut House of Representatives, Representative Antonio Guerrera, CT
- Connecticut House of Representatives, Representative Arthur O'Neill, CT
- Connecticut House of Representatives, Representative Brian Becker, CT
- Connecticut House of Representatives, Representative Brian Sear, CT
- Connecticut House of Representatives, Representative Cathy Abercrombie, CT
- Connecticut House of Representatives, Representative Christie Carpino, CT

- Connecticut House of Representatives, Representative Claire Janowski, CT
- Connecticut House of Representatives, Representative Dan Carter, CT
- Connecticut House of Representatives, Representative Dave Yaccarino, CT
- Connecticut House of Representatives, Representative David Arconti, CT
- Connecticut House of Representatives, Representative David Labriola, CT
- Connecticut House of Representatives, Representative Elizabeth Boukus, CT
- Connecticut House of Representatives, Representative Emmett Riley, CT
- Connecticut House of Representatives, Representative Geoff Luxenberg, CT
- Connecticut House of Representatives, Representative Janice Giegler, CT
- Connecticut House of Representatives, Representative Jason Rojas, CT
- Connecticut House of Representatives, Representative Joseph Aresimowicz, CT
- Connecticut House of Representatives, Representative Joseph Diminico, CT
- Connecticut House of Representatives, Representative Joseph Serra, CT
- Connecticut House of Representatives, Representative Kevin Ryan, CT
- Connecticut House of Representatives, Representative Linda Orange, CT
- Connecticut House of Representatives, Representative Matthew Lesser, CT
- Connecticut House of Representatives, Representative Michael Demicco, CT
- Connecticut House of Representatives, Representative Mike Alberts, CT
- Connecticut House of Representatives, Representative Patricia Widlitz, CT
- Connecticut House of Representatives, Representative Prasad Srinivasan, CT
- Connecticut House of Representatives, Representative Richard Smith, CT
- Connecticut House of Representatives, Representative Robert Godfrey, CT
- Connecticut House of Representatives, Representative Terry Gerratana, CT

#### **State Senators and Representatives (cont'd)**

- Connecticut House of Representatives, Representative Timothy Ackert, CT
- Connecticut House of Representatives, Representative Timothy Larson, CT
- Connecticut House of Representatives, Representative Vincent Candelora, CT
- Connecticut House of Representatives, Senator Daniel Rovero, CT
- Connecticut House of Representatives, Senator Susan Johnson, CT
- Connecticut State Senate, Senator Anthony Guglielmo, CT
- Connecticut State Senate, Senator Beth Bye, CT
- Connecticut State Senate, Senator Catherine Osten, CT
- Connecticut State Senate, Senator Dante Bartolomeo, CT
- Connecticut State Senate, Senator Donald Williams, CT
- Connecticut State Senate, Senator Edward Meyer, CT
- Connecticut State Senate, Senator Jason Welch, CT
- Connecticut State Senate, Senator Leonard Fasano, CT
- Connecticut State Senate, Senator Michael McLachlan, CT
- Connecticut State Senate, Senator Paul Doyle, CT
- Connecticut State Senate, Senator Robert Kane, CT
- Connecticut State Senate, Senator Steve Cassano, CT
- Maine House of Representatives, House Majority Leader Seth A. Berry, ME
- Maine House of Representatives, House Majority Whip Jeff M. McCabe, ME
- Maine House of Representatives, Representative Barry Hobbins, ME
- Massachusetts House of Representatives, Representative Edward F. Coppinger, MA

- Massachusetts House of Representatives, Representative Paul McMurtry, MA
- Massachusetts House of Representatives, Senator Michael F. Rush, MA
- New York State Senate, Legislative Director Sarah Ritz, NY
- New York State Senate, Senator Andrea Stewart-Cousins, NY
- New York State Senate, Senator Bill Larkin, NY
- New York State Senate, Senator George Latimer, NY
- New York State Senate, Senator Greg Ball, NY
- New York State Senate, Senator Terry Gipson, NY
- New York State, District Representative and Grants Coordinator, Sara Levine, NY
- Rhode Island House of Representatives, Representative Caleb Keable, RI
- Rhode Island House of Representatives, Senator Paul Fogarty, RI
- Senate of Maine, President of the Senate Justin L. Alfond, ME
- Senate of Maine, Senate Majority Leader Troy Jackson, ME
- Senate of Maine, Senator Anne M. Haskell, ME
- Senate of Maine, Senator Michael D. Thibodeau, ME
- Senate of Maine, Senator Roger Katz, ME
- State of Maine, Governor Paul LePage, ME

#### **State Government Agencies**

- Commonwealth of Massachusetts Department of Highways, MA
- Commonwealth of Massachusetts, Charles River Reservation, Benjamin Mills Park, MA
- Connecticut Attorney General's Office, George Jepsen, CT
- Connecticut Attorney General's Office, Joseph Rubin, CT
- Connecticut Attorney General's Office, Kimberly Massicotte, CT
- Connecticut Attorney General's Office, Robert Clark, CT

#### **State Government Agencies (cont'd)**

- Connecticut Department of Energy and Environmental Protection Engineering and Enforcement Section, Richard A. Pirolli, CT
- Connecticut Attorney General's Office, Robert Snook, CT
- Connecticut Department of Energy and Environmental Protection, Cheryl Chase, CT
- Connecticut Department of Energy and Environmental Protection, Christopher Martin, CT
- Connecticut Department of Energy and Environmental Protection, David Simpson, CT
- Connecticut Department of Energy and Environmental Protection, Dawn McKay, CT
- Connecticut Department of Energy and Environmental Protection, Daniel Esty, CT
- Connecticut Department of Energy and Environmental Protection, Douglas Hoskins, CT
- Connecticut Department of Energy and Environmental Protection, Fred Riese, CT
- Connecticut Department of Energy and Environmental Protection, Gary Rose, CT
- Connecticut Department of Energy and Environmental Protection, Jessie Stratton, CT
- Connecticut Department of Energy and Environmental Protection, Lydia J. Howard, CT
- Connecticut Department of Energy and Environmental Protection, Peter Aarrestad, CT
- Connecticut Department of Energy and Environmental Protection, Richard Jacobson, CT
- Connecticut Department of Energy and Environmental Protection, William Hyatt, CT

- Connecticut Energy and Technology Committee, Clark Chapin, CT
- Connecticut Energy and Technology Committee, Gary LeBeau, CT
- Connecticut Energy and Technology Committee, Jonathan Steinberg, CT
- Connecticut Energy and Technology Committee, Laura Hoydick, CT
- Connecticut Energy and Technology Committee, Lonnie Reed, CT
- Connecticut Energy and Technology Committee, Robert Duff, CT
- Connecticut Governer's Office, Liz Donohue, CT
- Connecticut Governer's Office, Paul Mounds, CT
- Connecticut Office of the Consumer Counsel, Elin Swanson Katz, CT
- Connecticut Office of the Consumer Counsel, Joseph Rosenthal, CT
- Connecticut Office of the Consumer Counsel, Richard E. Sobolewski, CT
- Connecticut Office of the State Archaeologist, Nicholas Bellantoni, CT
- Connecticut Policy Aides for Energy, Chris Zavagnin, CT
- Connecticut Policy Aides for Energy, Dave Steuber, CT
- Connecticut Policy Aides for Energy, Jason Stark, CT
- Connecticut Policy Aides for Energy, Jesse Hubbard, CT
- Connecticut Public Utility Regulatory Authority, Arthur House, CT
- Connecticut Public Utility Regulatory Authority, John Betkoski III, CT
- Connecticut Public Utility Regulatory Authority, Michael Caron, CT
- Connecticut Siting Council, Melanie Bachman, CT
- Connecticut State Historic Preservation Office, Stacy Vairo, CT
- Connecticut U.S. Senator Richard Blumenthal, Matthew LeBeau, CT

#### **State Government Agencies (cont'd)**

- Connecticut U.S. Senator Richard Blumenthal, Rich Kehoe, CT
- Massachusetts Department of Environmental Protection, Lealdon Langley, MA
- Massachusetts Department of Environmental Protection, Rachel Freed, MA
- Massachusetts Energy Facilities Siting Board, Andy Greene, MA
- Massachusetts Energy Facilities Siting Board, Enid Kurnin, MA
- Massachusetts Energy Facilities Siting Board, Robert Shea, MA
- Massachusetts Executive Office of Energy and Environmental Affairs, Maeve Vallely-Bartlett, MA
- Massachusetts Executive Office of Energy and Environmental Affairs, Richard K. Sullivan Jr., MA
- Massachusetts Historical Commission, Brona Simon, MA
- Natural Heritage and Endangered Species Program, Lauren Glorioso, MA
- New York City Department of Environmental Protection, Gail Piranio, NY
- New York City Department of Environmental Protection, Matt Gianetta, NY
- New York City Department of Environmental Protection, Melissa Layman, NY
- New York Public Service Commission, Gary Brown and Staff, NY
- New York State Department of Public Service, Kathleen H. Burgess, NY
- New York State Department of Environmental Conservation, Chris Hogan, NY
- New York State Department of Environmental Conservation, David Gasper, NY
- New York State Department of Environmental Conservation, Denny Escapata, NY
- New York State Department of Environmental Conservation, Jack Nasca, NY
- New York State Department of Environmental Conservation, John J. Ferguson, NY
- New York State Department of Environmental Conservation, Joseph Martens, NY

- New York State Department of Environmental Conservation, Karen Chytalo, NY
- New York State Department of Environmental Conservation, Larry S. Eckhaus, NY
- New York State Department of Environmental Conservation, Margarat Valis, NY
- New York State Department of Environmental Conservation, Michael Higgins, NY
- New York State Department of Environmental Conservation, Mike Cronin, NY
- New York State Department of Environmental Conservation, Region 3, George Sweikert, NY
- New York State Department of Environmental Conservation, Robert Sandford, NY
- New York State Department of Environmental Conservation, Stephen Tomasik, NY
- New York State Department of Environmental Conservation, Steve Yarrington, NY
- New York State Department of Environmental Conservation, Tara Seoane, NY
- New York State Department of Environmental Conservation, William Little, NY
- New York State Department of Public Service, James Denn, NY
- New York State Department of State, Matthew Maraglio, NY
- New York State Historic Preservation Office, New York State Office of Parks, Brian Yates, NY
- New York State Historic Preservation Office, New York State Office of Parks, Nancy Herter, NY
- New York State Historic Preservation, Ruth Pierpont, NY
- New York State Office of General Services, John Hernick, NY
- New York State Office of Parks, Recreation and Historic Preservation, Jeff Meyers, Esq., NY
- New York State Office of Parks, Recreation, and Historic Preservation, Tom Alworth, NY
- New York State Office of the Attorney General, John J. Sipos, NY

#### **State Government Agencies (cont'd)**

- New York State Office of the Attorney General, Philip Bein, NY
- Putnam County Legislature, Sam Oliverio, NY
- Rhode Island Coastal Resource Management Council, David Reis, RI
- Rhode Island Department of Environmental Management, Aleida Whitney, RI
- Rhode Island Department of Environmental Management, Chuck Horbert, RI
- Rhode Island Department of Environmental Management, Doug McVay, RI
- Rhode Island Department of Environmental Management, Eric Beck, RI
- Rhode Island Department of Environmental Management, Janet Coit, RI
- Rhode Island Department of Environmental Management, Mark Gibson, RI
- Rhode Island Department of Environmental Management, Ronald Gagnon, RI
- Rhode Island Department of Environmental Management, Terry Walsh, RI
- Rhode Island Division of Planning and Development, Paul Jordan, RI
- Rhode Island Governor's Office, Policy Analyst, Kate Brock, RI
- Rhode Island Historic Preservation and Heritage Commission, Edward F. Sanderson, RI
- Rhode Island Office of the Attorney General, Peter Kilmartin, RI
- Robert Michalik, CT
- State of Connecticut Forest Land Hop Brook, CT
- State of Connecticut, Attn: James Lapan, CT
- State of Connecticut, c/o Western Connecticut State University – Luigi Marcone, CT
- State of Connecticut, CT
- State of Connecticut, Office of Rights of Way, CT
- State of Connecticut, State Director, Kenny Curran, CT
- State of Rhode Island, RI

#### **Local Government Agencies**

- Ashland Conservation Commission, Conservation Agent, Matthew Selby, MA
- Ashland Historical Commission, Chair Julie Nardone, MA
- Berlin Inland Wetland and Watercourse Commission, Wetlands Agent/Deputy Director of Public Works James P. Horbal, CT
- Boston City Archaeologist, Joseph Bagley, MA
- Boston Conservation Commission, West Roxbury Neighborhood Coordinator Christopher Tracy, MA
- Chaplin Wetlands and Watercourses Commission, Wetlands Agent Joseph Theroux, CT
- City of Boston by Foreclosure, MA
- City of Boston, Councilor John Connelly, MA
- City of Boston, Councilor Matt O'Malley, MA
- City of Boston, Director of Energy Brad Swing, MA
- City of Boston, Director of Environmental Energy Brian Swett, MA
- City of Boston, Director of Neighborhood Services, Jay Walsh, MA
- City of Boston, MA
- City of Boston, Mayor Thomas Menino, MA
- City of New Bedford, Board of Health, MA
- City of New Bedford, Water Department., MA
- City of New York City, Aqueduct Manager, Bureau of Water Supply, Attn: Mike Tyrell, NY
- City of Norwich, Atty Michael Jewell, CT
- City of Norwich, Department of Public Utilities, General Manager John Bilda, CT
- City of Peekskill, Acting City Manager Brian Havranek, NY
- City of Peekskill, Corporation Counsel Ed Dunphy, NY
- City of Peekskill, Mayor Mary Foster, NY
- City of Peekskill, Michael Welfi, NY

#### **Local Government Agencies (cont'd)**

- County of Rockland, County Executive Edwin J. Day, NY
- County of Westchester, Blue Mt. Res., Attn: David Delucia, NY
- Cromwell Fire District, CT
- Cromwell Inland Wetlands and Watercourse Agency, Zoning and Wetlands Compliance Officer Fred Curtin, CT
- Danbury Inland Wetlands and Watercourse Agency, Senior Inspector Daniel L. Baroody, CT
- Dedham Conservation Commission, Chairman Frederick Civian, MA
- Dedham Department of Public Works, Joe Flanalan, MA
- Dedham Historical Commission, MA
- Everett Conservation Commission, MA
- Everett Historical Commission, MA
- Farmington Inland Wetlands and Watercourse Agency, Town Planner Jeffrey Ollendorf, CT
- Franklin Inland Wetlands and Watercourse Agency, Wetlands Enforcement Officer Thomas E. Weber, CT
- Freetown Conservation Commission, Kevin Desmarais, MA
- Freetown Historical Commission, Chair Mary E. Rezendes-Brown, MA
- Glastonbury Inland Wetlands and Watercourse Agency, Environmental Planner Tom Mocko, CT
- Guilford Inland Wetlands Commission, Inland Wetlands Enforcement Officer Regina Reid, CT
- Lebanon Inland Wetlands and Watercourses Commission, Town Planner Philip Chester, CT
- Medford Conservation Commission, Environmental Agent Alicia Hunt, MA
- Middleborough Conservation Commission, Conservation Agent Patricia J. Cassady, MA
- Middletown Inland Wetlands and Watercourse Agency, Planning/Environmental Specialist Matt Dodge, CT

- Montville Inland Wetlands Commission, Planner II Colleen Bezanson, CT
- Needham Conservation Commission, Director of Conservation Patricia Barry, MA
- Needham Historical Commission, MA
- New Bedford Conservation Commission, Office of Environmental Stewardship, Director Michele Paul, MA
- New Bedford Conservation Commission, Office of Environmental Stewardship, Conservation Agent Sarah Porter, MA
- New Bedford Historical Commission, MA
- New York City Department of Environmental Protection, Bureau of Legal Affairs, General Counsel John Rousakis, Esq., NY
- New York City Department of Environmental Protection, Bureau of Water Supply, Assistant Commissioner David Warne, NY
- New York City Department of Environmental Protection, Commissioner Emily Lloyd, NY
- New York City Department of Environmental Protection, Cynthia Garcia, NY
- New York City Department of Environmental Protection, Laurie Machung, NY
- New York City Law Department, Corporation Counsel Zachary W. Carter, NY
- North Haven Inland Wetlands Commission, Land Use Officer Alan Fredricksen, CT
- Norwich Public Utilities, Chris LaRese, CT
- Norwich Wetlands Watercourses and Conservation Commission, City Planner Mike Schaefer, CT
- Norwood Conservation Commission, Conservation Agent Al Goetz, MA
- Norwood Historical Commission, MA
- Office of Planning and Community
  Development, Chair Ryan
  Hayward, MA
- Oxford Conservation Commission and Inland Wetlands Agency, Inland Wetlands Enforcement Officer Andrew Ferrillo, Jr., CT

#### **Local Government Agencies (cont'd)**

- Plainville Inland Wetland and Watercourse Agency, AICP, Director of Planning and Economic Development Mark S. DeVoe, CT
- Plymouth Conservation Commission, Conservation Planner Richard Vacca, MA
- Plymouth Historical Commission, MA
- Pomfret Inland Wetland and Watercourse Agency, Clerk Lynn Krajewski, CT
- Putnam Inland Wetlands and Conservation Commission, Zoning and Wetlands Agent Frederick E. Wojick, CT
- Senator Lou DiPalma, RI
- Southbury Inland Wetlands Commission, Inland Wetlands Enforcement Officer Mark Massoud, CT
- Tiverton/Little Compton State Legislators, Representative Dennis Canario, RI
- Town Administrator Jim Goncalo, RI
- Town Manager Michael Wood, RI
- Town of Berlin, Administrative Assistant to the Town Manager, Sheila Wagner, CT
- Town of Berlin, Town Manager Denise M. McNair, CT
- Town of Bethel, First Selectman Matt Knickerbocker, CT
- Town of Bethel, Office Administrator Wendy Smith, CT
- Town of Carmel, Town Engineer Ron Gainer, NY
- Town of Chaplin, CT
- Town of Chaplin, First Selectman William H. Rose IV, CT
- Town of Chaplin, Selectman Irene J. Schein, CT
- Town of Chaplin, Selectman John A. Smith, CT
- Town of Cortlandt, Assemblywoman Sandra Galef, NY
- Town of Cortlandt, Edward Vergano, NY
- Town of Cortlandt, Jeffrey C. Coleman, NY
- Town of Cortlandt, Supervisor Linda Puglisi, NY
- Town of Cortlandt, Town Attorney Tom Wood, NY

- Town of Cromwell Middle School, Attn: Matt A. Bisceglia, Superintendent, CT
- Town of Cromwell, Board of Selectman Allan D. Spotts, CT
- Town of Cromwell, CT
- Town of Cromwell, First Selectman Mertie Terry, CT
- Town of Cromwell, Senior Executive Assistant Re Matus, CT
- Town of Cromwell, Town Planner Jon Harriman, CT
- Town of Cromwell, Town Planner Stuart Popper, CT
- Town of Danbury, City Engineer Farid Khouri, CT
- Town of Danbury, Mayor Mark D. Boughton, CT
- Town of Danbury, PU Foreman of Maintenance Transmission and Dist., Timothy Nolan, CT
- Town of Danbury, Public Utilities Superintendent David Dey, CT
- Town of Dedham (Recreation), Attn: Taissir Alani, MA
- Town of Dedham Cemetery Department, MA
- Town of Dedham, Interim Town Administrator Nancy Baker, MA
- Town of Dedham, Public Works, Director Joe Flanagan, MA
- Town of Dedham, Town Engineer Jason Mammone, MA
- Town of Farmington, Administrative Assistant, Lee A. Beckwith, CT
- Town of Farmington, CT, Administrative Assistant Deb Bull, CT
- Town of Farmington, Town Manager Kathleen A. Eagen, CT
- Town of Franklin, First Selectman Richard Matters, CT
- Town of Franklin, Selectman Charles Grant, CT
- Town of Franklin, Selectman Russell Beisiegel, CT
- Town of Glastonbury, Executive Assistant to Town Manager, Yolanda Olenick, CT

#### **Local Government Agencies (cont'd)**

- Town of Glastonbury, Town Manager Richard Johnson, CT
- Town of Guildford, Administrative Assistant, Karen Quercia, CT
- Town of Guildford, Administrative Assistant, Kristen Elliott, CT
- Town of Guildford, First Selectman Joseph S. Mazza, CT
- Town of Haverstraw, Assemblyman Kenneth Zebrowski, NY
- Town of Haverstraw, Building Inspector Eugene Barnum, NY
- Town of Haverstraw, NY
- Town of Haverstraw, Supervisor Howard Phillips, NY
- Town of Lebanon, Assistant to the First Selectman Patti Handy, CT
- Town of Lebanon, CT
- Town of Lebanon, First Selectman Joyce Okonuk, CT
- Town of Lebanon, John Bendoraitis, CT
- Town of Lebanon, Selectman Linda Finelli, CT
- Town of Little Compton, Town Council President Robert Mushen, RI
- Town of Manchester, Deputy Mayor Jay Moran, CT
- Town of Manchester, Executive Assistant to the General Manager Donna Huot, CT
- Town of Manchester, General Manager Scott Shanley, CT
- Town of Manchester, Mayor Leo V. Diana, CT
- Town of Manchester, Sr. Administrative Secretary Megan Campion, CT
- Town of Manchester, Town Engineer Jeff Lamalva, CT
- Town of Marlborough, Al Lanzetta, NY
- Town of Middleborough, MA
- Town of Middletown, Executive Assistant Linda DeSena, CT
- Town of Middletown, Mayor Daniel Drew, CT
- Town of Montville, Mayor Ronald McDaniel, CT
- Town of North Haven, First Selectman Michael J. Freda, CT

- Town of Norwich, City Manager Alan Bergren, CT
- Town of Norwich, Mayor Deberey Hinchey, CT
- Town of Ossining, Supervisor Susanne Donnelly, NY
- Town of Ossining, Supervisor Warren J. Lucas, NY
- Town of Oxford, Economic Development Director Andrew McGeever, CT
- Town of Oxford, First Selectman George Temple, CT
- Town of Oxford, Selectman David McKane, CT
- Town of Oxford, Selectman Jeffrey Haney, CT
- Town of Plainville, Executive Assistant Lisa Metayer, CT
- Town of Plainville, Town Manager Robert E. Lee, CT
- Town of Pomfret, First Selectman Maureen Nicholson, CT
- Town of Pomona, Mayor Brett Yagel, NY
- Town of Pomona, Village Attorney, NY
- Town of Putnam, Mayor Peter Place, CT
- Town of Rocky Hill, Dir. Highways and Engineering James Sollmi, CT
- Town of Rocky Hill, Economic Development Director Ray Carpentino, CT
- Town of Rocky Hill, Mayor Anthony LaRosa, CT
- Town of Rocky Hill, Town Manager Barbara Gilbert, CT
- Town of Somers, Police Chief Michael Driscoll, NY
- Town of Somers, Supervisor Mary Beth Murphy, NY
- Town of Southbury, Assistant to First Selectman Carol M. Hubert, CT
- Town of Southbury, First Selectman Ed Edelson, CT
- Town of Southbury, Office Manager Noreen Thompson, CT
- Town of Southeast, NY
- Town of Southeast, Supervisor Troy Hay, NY
- Town of Southeast, Town Hall, NY
- Town of Stony Point, Assemblyman James Skoufis, NY

#### **Local Government Agencies (cont'd)**

- Town of Stony Point, Assemblyman Steve Katz, NY
- Town of Stony Point, Councilman Jim McDonnell, NY
- Town of Stony Point, Supervisor Geoffrey Finn, NY
- Town of Tiverton, Town Planner Kate Michaud, RI
- Town of Vernon, Mayor Ernie Eldridge, CT
- Town of Vernon, Mayor George F. Apel, CT
- Town of Vernon, Town Manager Neal Beets, CT
- Town of Westwood, MA
- Town of Westwood, Town Administrator Mike Jaillett, MA
- Town of Yorktown, Attn: Michael Grace, NY
- Town of Yorktown, Supervisor Michael Grace, NY
- Towns of Haverstraw and Stony Point, Legislative Director Robert Nickol, NY
- Vernon Inland Wetlands Commission, Inland Wetlands Enforcement Officer Craig Perry, CT
- Village of Buchanan, Village Administrator, Clerk of Treasurer Kevin Hay, NY
- Village of Ossining, Corporation Counsel Lori Lee Dickson, NY
- Waltham Conservation Commission, Conservation Commission Staff Kim King, MA
- Waltham Historical Commission, Chair Alex Greene, MA
- Wellesley Historical Commission, Chair Helen Robertson, MA
- Wellesley Natural Resources Commission, Assistant Natural Resources Commission Director Diane E. Torres, MA
- Westchester County Board of Legislators, Peter B. Harckham, NY
- Westchester County Department of Planning, NY
- Weston Conservation Commission, Conservation Administrator Michele Grzenda, MA

- Weston Historical Commission, Ann Swaine, MA
- Westwood Conservation Commission, Karen Skinner Civian, MA
- Westwood Historical Commission, Chairperson Peter Paravalos, MA
- Windham Inland Wetlands and Watercourses Agency, Land Use Officer James Finger, CT

#### **Native American Groups**

- Connecticut Indian Affairs Council, Edward Sarabia, CT
- Delaware Nation of Oklahoma, Tamara Francis, OK
- Delaware Nation, Corey Smith, OK
- Delaware Tribe of Indians, Dr. Brice Obermeyer, KS
- Eastern Pequot Tribal Nation, James Cunha, CT
- Mashantucket Pequot Tribal Nation, Kathleen Knowles, CT
- Mashpee Wampanoag Tribe, Ramona Peters, MA
- Massachusetts Commission on Indian Affairs, John A. Peters, Jr., MA
- Mohegan Indian Tribe, James Quinn, CT
- Mohegan Tribe of Indians of CT, Attn: Philip M. Cahill, CPA, CT
- Mohegan Tribe of Indians of CT, Charles F. Bunnell, CT
- Mohegan Tribe of Indians of CT, Phiip M. Cahill, CT
- Narragansett Indian Tribe, John B. Brown, III, RI
- Ramapough Lenape Indian Nation, Judith J. Sullivan Jr., NJ
- Schaghticoke Tribal Nation, CT
- St. Regis Mohawk Tribe, Chief Randy Hart, NY
- Stockbridge-Munsee Community Band of Mohican Indians, Sherry White, WI
- Tribal Historic Preservation Officer, Arnold Printup, Jr., NY
- Wampanoag Tribe of Gay Head (Aquinnah), Bettina M. Washington, MA

#### **Libraries**

Ashand Public Library, Paula Bonetti, MA Berlin-Peck Memorial Library, Sara Munson, CT

Brewster Public Library, Maria Steinberg, NY

Brownell Library, Beth Ryan, RI

Chaplin Public Library, Geraldine Helmer, CT

Cora J. Belden Library, Mary Hogan, CT

Danbury Library, Michele Capozzella, CT

Dedham Public Library, Dr. Mary Ann Tricarico, MA

Farminton Library - Main, Jay Johnston, CT

Field Library, Sibyl Canaan, NY

Guilford Free Library, Sandy Ruoff, CT

Guilford H. Hathaway Library, Dorothy P. Stanley-Ballard, MA

Haverstraw Kings Daughters Public Library, Claudia Depkin, NY

Hendrick Hudson Free Library, Jill Davis, NY

Janet Carlson Calvert Library, Christine Schulz, CT

Jesse M. Smith Memorial Library, Sandra P. Mundy, RI

John C. Hart Memorial Library, Patricia Barresi, NY

Jonathan Trumbull Library, Julie Culp, CT

Medford Public Library, Brian Boutilier, MA

Middleboro Public Library, Danielle Bowker, MA

Morrill Memorial Library, Charlotte Canelli, MA

Needham Public Library, Ann MacFate Director, MA

New Bedford Free Public Library, Theresa Coish, MA

North Haven Memorial Library, Lois Baldinni, CT

Otis Library, Veronica Marshall, CT

Oxford Public Library, Dawn Higginson, CT

Parlin Memorial Library, Deborah Abraham, MA

Plainville Public Library, Peter Chase, CT

Plymouth Public Library, Dinah O'Brien, MA

Pomfret Public Library, Laurie Bell, CT

Putnam Public Library, Priscilla Colwell, CT

Raymond Library, Joanne Westkamper, CT

Rockville Public Library, Donna Enman, CT

Rose Memorial Library, Benjamin Reid, NY

Russell Library, Arthur Meyers, CT

Somers Public Library, Pat Miller, NY

Southbury Library, Shirley Thorson, CT

The Cromwell Belden Public Library, Eileen Branciforte, CT

Tiverton Public Library, Ann Grealish-Rust, RI

Waltham Public Library, Kate Tranquada, MA

Wellesley Free Library, Elise MacLennan, MA

Welles-Turner Memorial Library, Barbara Bailey, CT

West Roxbury - Branch of the Boston Public Library, Sheila G. Scott, MA

Weston Public Library, Susan W. Brennan, MA

Westwood Public Library, Thomas Viti, MA

Windham Free Library, Carol Santa Lucia, CT

#### Media

Ann Farrell, MA

Dedham Times, Scott Herald, MA

Everett Independent, Deborah Digregoriou, MA

Free Bird Times, Ashley Brown, MA

Hartford Courant, Jessica, CT

Heritage Villager, Terry Lieder, CT

Metro West Daily News, Ann Farrell, MA

New Haven Register, Rich Catanese, CT

Newport Daily News, AnnMarie Brisson, RI

Norwich Bulletin, Cindy, CT

Plainville Citizen/Berlin Citizen, Christine Nadau, CT

Putnam Town Crier, Linda Lemmon, CT

Sakonnet Times, Toni Mitchell, RI

Shoreline Times, Joe Urson, CT

Standard Times, Modesta Levesque, MA

The Call, Diane Ames, RI

The Chronicle, Jodi Green, CT

The Dolphin, Joe Urson, CT

The Journal News, Lateefah Simpson, NY

The Middletown Press, Michael Giannone, CT

#### Media (cont'd)

The News-Times, Yola Rowe Spinosa, CT

The Pomfret Times, Elizabeth Cartier, CT

The Somerville News, Bobbi Toner, MA

Voices, Ann Herr, CT

Waterburg Republican American, Lisa Noonan, CT

#### **Companies and Organizations**

199 Shunpike Road, LLC, NY

210 Route 32 LLC, Edwin R. Muenzner, CT

23 Washington St., LLC, Bruce Adler, NY

23 Washington St., LLC, Charles Diven, NY

395 Flex Center Condominium Association, Inc., Theodore Tylaska, CT

42 Gate Hill Road Corp., Larry Kigler, NY

515 Realty Trust, Linda M. Smith, MA

5192 Washington Street LLC/A Mass Co., MA

58 Dwight Street Real Estate Trust, Antonio Musto, MA

62-64 Dwight Street Realty Trust, Kathryn Pierce, MA

71 Summer St Realty Trust/Acton Management, Jen Laferriere, MA

909 Providence Highway Realty Trust, Teymour Jamali, MA

95 Mill Plain Road LLC, CT

Accufacts Inc., Richard B. Kuprewicz, WA

ADAR 15 Corporation, Burton Dorfman, NY

Adelman Family LP, CT

Agriventures Realty, Dave O'Leary, CT

Anns Place the Home of I Can Inc., CT

Arborio Brothers, LLC, CT

Archstone Legacy Place LP

Avery Oak Realty LLC, c/o Tax Department Walgreen Co., IL

Back O' Beyond Inc., NY

Bay State Gas Company, c/o Columbia Gas of Massachusetts, Attn: Paul Franciose, MA

Beachak Bros., Inc., NY

Belimo Air Controls (USA) Inc., CT

Ber-Giam Realty Trust, Attn: Jeffrey S. Berry et al., Trustee, MA

Better Future Project, Craig Altemose, MA

Bijal Hotel Limited Partnership, c/o Jiten Hotel Management Inc., MA

Board of Public Utility Commission, CT

Bonie Wood Realty Co., Attn: Ralph Boniello, NY

Boston Gas Co. DBA National Grid Property Tax Dept., Peter Nagle, MA

Boston Gas Company, MA

Boston Housing Authority/Mass Corp., MA

Boy Scouts of America, Attn: David Horton, NY

Branford East Partnership, CT

Brazos Automotive Properties, c/o Monro Muffler/Brake Re Tax, NY

Brian F. Cook Realty Corp., Attn: Brian Cook, NY

Briarwoods Farms, Inc., NY

Brockton Taunton Gas Co., c/o Columbia Gas of Massachusetts, Attn: Paul Franciose. MA

Brookfield Industrial Development Co., c/o Goodfellows-Ashmore Attn: Todd Payne, CT

Brothers Properties, LLC, CT

Building and Construction Trades Council of Westchester and Putnam Counties, Edward Doyle, NY

Burris Logistics, DE

Butternut Hill LLC, CT

C & M Realty Trust, MA

C&C Development, LLC, CT

C&G Holdings, LLC, CT

C&J Real Estate Partners LLC, CT

Caliber Home Loans, Inc., Philip Varghese, TX

Cam-CT Properties LLC, CT

Capitalism vs. the Climate, Dan Fischer, CT

Cappalex Realty Corporation, Attn: Alex Alverez, NY

Carol Rice Rev. Trust, FL

Cedar Brook Owners, LLC, NJ

Charter Realty Corporation, MA

#### **Companies and Organizations (cont'd)**

Cherry Realty Trust, Hugh T. Varden, Trustee, MA

Church of St. Patrick, NY

Citizens' Environmental Coalition, Barbara Warren, NY

Claremont Dedham LLC, c/o The Claremond Co. Inc., MA

Clean Air Council, Joseph Otis Minott, Esq., PA

Coles Brook Commerce Park Association, CT

Compass Property Management, Inc., CT

Competitive Power Ventures, Attn: Andy Basinet, MA

Con Edison Co. of New York, Attn: Jennifer Stahmer, NY

Con Edison Co. of New York, Attn: Laurie Silberfeld, NY

Conn Natural Gas Corp., CT

Conn-Cal Associates, LLC, Attn: Chuck Mandel, Manager, CT

Connecticut AFL-CIO, Lori J. Pelletier, CT

Connecticut Business and Industry Association, Eric J. Brown, CT

Connecticut Light and Power, Attn: Shawn Southworth, CT

Connecticut Natural Gas Corp., c/o Shared Services, ME

Connecticut Natural Gas Corporation, CT

Connecticut Natural Gas Corporation, John Rudiak, CT

Connecticut Radio Holding, LLC, CT

Connecticut Water Company, CT

ConocoPhillips Company, Benjamin J. Schoene, TX

ConocoPhillips Company, Stephanie D. Jones, TX

Conservation Law Foundation, Caitlin Peale, MA

Conservation Law Foundation, Jonathan Peress, MA

Conservation Law Foundation, Shanna Cleveland, MA

Consolidated Rail Corporation (CSX), Attn: Rick Snyder, FL Constellation, Christopher Young, MD

Cortlandt Farm Mkt., Dominick Dinardo, Trust, NY

Cristaldi, T.S. and Cristaldi Realty Trust, Michelangelo, MA

Cromwell Concrette Products, Inc., Attn: Raymond Sibera, CT

Croton Watershed Clean Water Coalition, Inc., Marian Rose, NY

Cullen and Dykman LLP, Kenneth T. Maloney, DC

Cumberland Farms, Inc., MA

Cushman Farms, LP, Attn: Nate Cushman, CT

CwCwC, Inc., Marian H. Rose, PhD, NY

D & M Real Estate Trust, Douglas H McCarther et al., Trustee, MA

D & T Dinardo, Trust, NY

Dalco Realty Trust, MA

Damascus Citizens for Sustainability, Inc., Jeff Zimmerman, PA

Damour Family Reality, LLC, MA

Danbury Acquisition Corporation, c/o RR Donnelley and Sons – Tax, Attn: Thomas Moran, IL

Daughters of St. Paul, MA

David, T.S. and Verna M., David Realty Trust, Kenneth, MA

Dedham Real Estate Dev LLC, MA

Dedham Sportmens Center Inc., MA

Dedham Wholesale Tire, Dona Manfedi, MA

DeMaio Builders, Inc., NY

Deutsche Bank Nat Tr., CA

Deutsches Altenheim Inc., MA

Devaney Realty Trust, Francis H Devaney et ux Trustee, MA

Dime Bank, CT

DLT Family LPS/Mass LPS, MA

Easter Seals Capital Region and Eastern Connecticut, Inc., Attn: Diane Trotman, CT

Eastern New York Laborers' District Council, Frank J. Marchese, Jr., NY

Eastern New York Laborers' District Council, Samuel M. Fresina, NY

<b>Companies and Organizations (cont'd)</b>
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EEC Plus LLC, NY

Ellen A. Brennan Family Irrevocable Trust, James J. Brennan, MA

Entergy Nuclear Indian – PT3 LLC, LL&F Service Corp, LA

Entergy Nuclear Indian Point, Attn: Steve Miller, LA

Entergy Services, Inc., Michael C. Griffen, DC

Entergy Services, Inc., William B. Glew, Jr., NY

Enterprises Shunpike, LLC, Attn: Mike Holcolb, CT

ESS PRISA, II, VA

Exelon Corporation, Christopher A. Wilson, DC

Exelon Corporation, Lisa Simpkins, MD

Extra Space Properties Thirty LLC, Attn: Zach Dickens, UT

Farrington Properties LLC, NY

Federal Realty Investment Trust, MD

Food and Water Watch, Alex Beauchamp, NY

Forest View Estates Homeowners Association, c/o Northeast Property Management Attn: Melanie Grimes, CT

Fossil Free Rhode Island, Lisa Petrie, RI

Fountainhead Parks, Inc., Nancylu Viviano, NJ

Fox Television Stations Inc., MA

Franklin Hills Estates and Country Club, LLC, Attn: Andrew D'Amato, CT

Freihofer Sales Company, Inc., NY

FWA, LLC, CT

Gardners Nurseries, Inc., Attn: Jack Gardner, CT

Genlyte Group, Inc., Attn: Ron Westgate, MA

GenOn Lovett, LLC, Attn: Brian McCabe, NJ

GenOn, Attn: Brian McCabe, NJ

Gera Danbury, LLC, c/o Matrix Realty Group Attn: Mike Brown, CT

Giuliante Machine Tool Inc., Marcelo Giuliante, NY

Gosia LLC, MA

Grassroots Environmental Education, Ellen Weininger, NY

Green Party of Rhode Island, Tony Affigne, RI

Greenlands II, LLC, NY

H. Rocks Stone Supply, LLC, CT

Harney Nominee Trust, John C. and Mary B. Harney, MA

Harvard Energy Advisory Committee, Eric Broadbent, MA

Hasson Holding, LLC, Attn: Jan, CT

Haverstraw Elks No. 577, Michael Bulter, NY

Hendrick Hudson Central School District 3, NY

Housatonic Railroad, Inc., Attn: Finance, Legal, Accounting and Real Estate, CT

HSBC Bank USA National Assoc., NY

Hughes Brothers, Inc., William Hughes, Jr., NJ

International Union of Operating Engineers Local 137, Jeffrey Loughlin, NY

International Union of Operating Engineers, Craig Metz, CT

International Union of Operating Engineers, Nate Brown, CT

Interstate Business Center LLC, Attn: Greg Steiner, CT

Jac-Ross Company, Attn: William and Nancy Knight, VA

Janemar LLC, MA

Jar Associates, Attn: Anthony Rizzo, CT

JJW Properties LLC, Attn: Josh Weeks, CT

John Ross Properties, LLC, CT

Just Cheryl, CT

Kettletown, LLC, c/o IBM Corp., CT

King Marine, Randy King, NY

Kleen Energy Systems, LLC, CT

Kmmkm Ltd., NY

Laborers' International Union of North America, Local 60, NY

Laborers Local 754 of Rockland County, NY, Stephen J. Reich, NY

Lafarge Corp., Attn: Craig Ferry, NY

Lamont – Doherty Earth Observatory, John Armbruster, NY

League of Women Voters of the Rivertowns, Emma Lou Sailors Louis, NY

League of Women Voters of Westchester Inc., Sharon Lindsay, NY

**Companies and Organizations (cont'd)** 

League of Women Voters of Westchester Inc., Susan Schwarz, NY

Legacy Place LLC, c/o S.R. Weiner and Associates Inc., MA

Lepe Gas Inc., MA

Liberty Utilities, F. Chico DaFonte, NH

Lighthouse Realty, LLC, CT

Linear Retail Dedham No. 1 LLC, c/o Keypoint Partners LLC, Attn: Julie Qualy, MA

Linear Retail Dedham No. 2 LLC, Attn: Julie Qualy, MA

Lucy Dedham LLC, CVS Caremark No. 1531-01, RI

Madison Realty Trust, Richard B. Aronson, MA

Mahopac National Bank, NY

Maine House of Representatives, Mark W. Eves, ME

Mambeejambee Ltd., NY

Maritime Grille LLC, CT

Martins Irrevocable Trust, Doris F. and Richard L. Martins, MA

Mass Bay Trans Authority, MA

Mathworks, Paul Popinchalk, MA

Maydon, LLC, CT

McCarter and English, John P. Gregg, DC

McGirk Management Corp., Attn: Lisa Hall, NY

Medical Information Tech Inc., Attn: Ed Sulham, MA

Merrifield, LLC, CT

Meteora, LLC, Attn: Ari Thanos, NY

Metro-North Railroad Company, Maintenance of Way, Attn: Jim Hom, NY

Metropolitan District, CT

Middleborough Gas and Electric Dept., Jacqueline L. Crowley, MA

Midwest Associates LLC, MA

Morgan, Lewis and Bockius LLP, Charles A. Moore, TX

Morgan, Lewis and Bockius LLP, Sean P. Jamieson, DC

Mount Pleasant Bldg Association/Mass Corporation, MA

Mountain Glen @Warwick Corporation, Attn: Abe Goldberger, NY

Mountain Spring Associates, LLC, CT

MPM Enterprises, LLC, CT

National Amusements Inc., Patricia Reeser, MA

National Center for Disaster Preparedness, Irwin Redlener, NY

National Grid, David Lodemore, MA

National Grid, James Stanzione, NY

National Grid, John Allocca, NY

National Grid, John Stavrakos, MA

National Grid, Samara Jaffe, NY

Natural Resource Group, LLC, Jennifer Lee, OR

Natural Resource Group, LLC, Stu Buchanan, NY

New England Central Railroad, VT

New England Gas Co., C/O Property Tax Department, MA

New England States Committee on Electricity, Benjamin S. D'Antonio, MA

New Jersey Resources, Douglas Rudd, NJ

New Jersey Resources, William Scharfenberg, NJ

New York City Aqueduct Manager, NY

New York League of Conservation Voters, Marcia Bystryn, NY

New York State Laborers' Organizing Fund, John F. Hutchings, NY

New York United Water, Attn: Hetal Mistry, NJ

New York Waterway, Inc., Donald Liloia, NJ

Nichmatt Corporation, NY

NiSource Corporate Services, Deepak Rayal, OH

Nixon Peabody LLP, Elizabeth W. Whittle, DC

NJR Energy Services Company, Ginger Richman, NJ

Norfolk Golf Club, Attn: Paul Smith or Joe Frazer, MA

Northeast Allied Holdings, Attn: David R. Letts, MA

Northeast Utilities Service Company, Andrew S. Katz. DC

Northeast Utilities Service Company, James G. Daly, MA

#### **Companies and Organizations (cont'd)**

Norwich Franklin, LLC, Attn: David Bell, Sr., Real Estate Manager, NJ

NS Norfolk Acquisition LLC, c/o Christopher Cwynar, MA

Nstar Electric Company, Property Tax Department, MA

Nstar Gas Company, MA

NYH2O, NY

Oaktree Capital Management LP/Sawmill Road Property LLC, Attn: Amy Johannes, NY

OCW Retail – Dedham LLC, c/o The Wilder Companies Ltd., MA

Ondo Grove Street LLC, Attn: Kathleen Doherty, Manager, MA

One Reserve Road LLC, c/o Scalzo Property Management, CT

Orbit Realty Trust, Attn: Bullens Donn Trustee, MA

Owen Motors Inc., Attn: Peter Owen, MA

Pace University, Dr. Frances Delahanty, NY

Palazesi and Shawmut Avenue Nominee Trust, L.J. Trs, MA

Palisades Interstate Park Comm., c/o James F. Hall, Executive Director, NY

Palisades Interstate Park Commission, Attn: James F. Hall, CT

Pearl Realty Associates LLC, c/o Largo Realty Inc., Attn: Sophia Saroglov, MA

Peekskill Seaplane Base, James Martin, NY

Pep Boys – Manny Moe and Jack of Delaware Inc., c/o Akerman LLP, Attn: George W. Powell, Jr., FL

Petruzziello Properties LLC, MA

Pfizer, Inc., James Turner, CT

Phoenix House Foundation Pilgrim State Psych Center, Attn: Shari Feld, NY

Pleasantside Pres. School and Co., c/o Marion Perry, Attn: Alan Perry, NY

PNC Bank National Assoc., UT

Prides Corner Farms Inc., CT

Prime Enterprises, LLC, Byron Beausoleil, Member, Attn: Frank Blanchard, CT

Prime Locations of Connecticut, LLC, PA

PSEG Energy Resources and Trade, Cara Lewis, NJ

PSEG Energy Resources and Trade, David Caffery, NJ

PSEG Energy Resources and Trade, Matthew Weissman, NJ

Putnam County Coalition to Preserve Open Space, Ann Fanizzi, NY

Putnam County Legislature, Diane Schonfeld, NY

Quantum of Cromwell, III, LLC, CT

R & R Realty Associates LLC, MA

R K Centers, Attn: David Baker, MA

R.O.W./Roberts and Thompson, RI

Rackemann, Sawyer and Brewster, Sanford Matathia, Esq., MA

RAR2 Jefferson at Dedham Station Massachusetts Inc., c/o Thomson Reuters Dept. 207, Laura Donahue, Regional Property Management, AZ

Rasmussen Family Realty Trust, Nary E.
Rasmussen and Anne M. Waisanen, MA

Rescue One, LLC, CT

Reynolds Hills, Inc., c/o Noah Slutsky Attn: Attorney Nancy Vaan, NY

Rider Hill Realty, Attn: Abe Goldberger, NY

Ridgewood Country Club Inc., Fred Del Percio, CT

Riverkeeper, Misti Duvall, NY

Riverkeeper, NY

Riverkeeper, Philip Musegaas, NY

Riverkeeper, William Wegner, NY

Riverwalk Partners LLC, CT

Rochester Gas and Electric Corporation, Linda Dent, NY

Rocky Hill Development, LLC, CT

Rocky Hill Vault, Inc., CT

Rocky Mountain Pipeline Construction Association, LA

Route 6 Land LLC, CT

Royal Auto Tops, Inc., Attn. Paul J. Camuso, MA

S & S Freeman LLC, MA

#### **Companies and Organizations (cont'd)**

S.M. Lorusso and Sons Inc./Mass Corp., Attn: Tony Lorusso, MA

Saunders, T.S. and Linda H. and Five 230 Washington Street Trust, Joseph K., MA

Schiavo Enterprises, LLC, MA

Schiff Hardin LLP, Debra Ann Palmer, DC

Schiff Hardin LLP, Noy S. Davis, DC

Schnip Family, LLC, Attn: Gary Schnip, CT

Scotty C. Corp., c/o Action Metal, Co., Inc., NY

SDBDJB, LLC, Attn: Anthony Petrella, CT

Seven Spring Realty Trust, Dimitra Kaltsas, MA

Shawmut Associates LLC, MA

Sheehan Trusts, Dennis P., Margaret P., John P. and Maurice C. Jr. and Barbara E. Spurrell TC and Joanne P. O'Callaghan TC, MA

Shunpike Auto Wash, LLC, CT

Shunpike Business Center, LLC, CT

Shunpike Real Estate, LLC, CT

Shurgard Storage Centers, Inc., c/o Public Storage, Attn: Kevin Jones, Facility Manager, NJ

Sierra Club, Lower Hudson Group, Bill Meyer, NY

Simpson Memorial Church, Inc., NY

Sive, Paget and Riesel P.C., Daniel Riesel, NY

Sive, Paget and Riesel, P.C., Daniel Mach, NY

Smith Beaumont Properties, LLC, Attn: Richard F. Smith and Mary Ann Smith, CT

SMS Realty, LLC, CT

Southern Connecticut Gas Co., CT

SPARC, Sandra Kissam, NY

Specon IX LLC, Delaware LLC, Amerada Hess Facilities, Business Trust No. 1998-1, TX

Starmount Corp., c/o Jowdy and Jowdy, Attn: James Jowdy, Jr., CT

Stony Point Acquisitions, Attn: Patrick Magee, NY

Stop the Algonquin Pipeline Expansion, Susan Van Dolsen, NY

Subra Company, Wilma Subra, LA

Sylson, LLC, c/o Howard Finkelstein, NY

SYSCO Food Service of Connecticut, CT

Tabshey Development, LLC, CT

The Annie Barry Company Ltd., NJ

The Business Council of Westchester, John Ravitz, NY

The Cary Schmoeger Living Trust, NY

The Fort Lane Real Estate Trust and Carrie M. Crossland Trustee, MA

The Hills at Riverton, Attn: Association Officer, CT

The Hills of Rivington, Attn: Anthony Tedesco, NY

The Hughes Family Trust, NY

The Nelson Companies, Ltd, Emily A. Maitin, Esq., MA

The New 865 Realty Trust, Alan H. Okstein, MA

The New England Council, James T. Brett, MA

The Ryan McElroy Trust, NY

Three R S Construction Co., NY

Tolake Corporation, Attn: Gerry Gottus, NY

Toll CT III Limited Partnership, Attn: Keith Diorio, PA

TRC Solutions, Mike Tyrrell, MA

Trout Unlimited, Richard Boissonneault, NY

Trustees of One Allied Drive Realty Trust, Attn: Thomas M. Alperin, et al., MA

Trustees Roxbury Latin School/Mass Corp., MA

Twenty-One 35 Realty LLC, Lou Kfoury, MA

Two 093-2105 Centre Street Nominee Trust, Bessie K. Thomas, MA

United Water, New York, NJ

Unitil Service Corp., Robert S. Furino, NH

Vergason-Essex Trust, LLC, c/o Simon Konover Co. Attn: Brian Nicknair, CT

Verifier Capitol, Addi Aloya, FL

Vertical Associates Co., RI

Vincent C.E. Peterson Trust, Vincent C.E. Peterson, et al., MA

Vinci Real Property, LLC, CT

Viola County Line Realty, LLC, CT

Virgin Mary/St. Pakhomious Coptic Orthodox Church, NJ

**Companies and Organizations (cont'd)** WF Bros LLC, c/o Nick and Gino Vona, CT Virjen, LTD, NY Whiting Avenue LLC, MA Walter Realty, Inc., c/o William Greene and Co. Woodfield Acres, Inc., Attn: Martin Feldi, NY Attn: Heather Blassberg, NY WR XXII, LLC, Attn: Tim Connelly, IN Westerly Marina, Inc., Arthur DeMarchis, NY WS Development, c/o Beth Windbourne, MA Westmill LLC, CT Wyndam Land Trust, Inc., CT Westville Estates Community Association Inc., Yando Rocky Hill, Inc., c/o Holm and Drath, Attn: Kathleen Burns, CT WEW 712 Brook Street, LLC, c/o Winstanley Yankee Gas Services, c/o Mike Curtain, CT Enterprises, LLC, MA York Hill Rap Rock Quarry, CT Alexia A. and Bruce J. II **Individuals** Andrew and Barbara

Mark, NY McFarland, MA A. Morgillo, NY Alfonso Avila, CT Andrew and Nancy Aaron Heesch and Alliston Yarusinsky, NY Latt. MA Alfred and Kristine Conklin, NY Andrew and Therese Aaron Hramiak, CT Morgan, NY Alfred and Pauline Abby Marsa, MA Esposito, NY Andrew Daly, NY Abraham and Antoinette Alfred J. and Teresa Andrew Griffin, RI Llauger, NY Pignatelli, et al., MA Andrew J. and M. Abraham P. Joseph, NY Alfred J. Priore et al. and Bradfield, NY Adam and Susan Cote, CT George McLaughlin Andrew P. and Marv Adam Lupino, RI Trustee, MA Cody, NY Adel E. Teplitz, NY Alicia McAuliffe-Andrew S. and Margaret Adele Franks, MA Fogarty, NY Tourangeau, CT Adelia Malafy, NY Alison Clyburne, NY Angela and Wayne L. Adeline and Antoinette Alix Berniker, NY Smith, NY Fonseca, MA Angela and Zachary Allan M. Ullian, MA Alan A. and Sharon Morfogen, NY Allen Dozor, NY Morrison, NY Angela Marano, NY Allison McConnell, CT Alan Arkawy, NY Angela Pascale, NY Amelia R. Patti, CT Albert A. and Lynette Angela Rings, NY Amit Sharma and Seema Argenio, NY Narang, NY Angela Seavey, NY Albert and Connie Amy Anderson, NY Angelina Surak, NY Vitiello, NY Amy B. and Brian S. Angelo Cerreto, NY Albert J. and Christine Stamm, NY Angelo Serracchia, MA Novelli, NY Amy Garcia-Nacke, NY Ann and Jim Martin, NY Albert J. and Elaine R. Amy Molina, NY Freitas, MA Ann Fanizzi, NY Ana A. Garcia, MA Albert J. Chopyack, NY Ann Lewis, NY Ana Guzman, NY Albert L. and Denise Ann Marie Gibson, NY Hicks, CT Andrea J. St. Pierre, MA Ann Modena, MA Alex Zulla, NY Andrea McDermott, MA Anna Cugliandro, NY Andrea V. and Wayne Alexander Yuzhakov, MA Anna N. McKoan, CT

Scott, NY

Individuals (cont'd)	Antoine I. Lakkis, etux and	Avril B. and George J.
Anne Bass, NY	Alissar N. te, MA	Stevens, CT
Anne Bump, NY	Antoinette K. and Marc Bass, NY	Bamidele and Joke Alade, NY
Anne Marie Lorigan, MA	Antoinietta Piriz, NY	Barbara and Jack
Anne Marie Volpe, NY	Antonio and Angelina	Senatore, NY
Anne Pearl, NY	Pennella, NY	Barbara and Wayne
Anne Scally, NY	Antonio and Mary	Lofrete, NY
Anne Sumers, M.D., NY	Martinez, MA	Barbara and Wolfgang
Anne Zaera, NY	Antonio and Theresa	Bader, NY
Anthony and Carolyn	Incardona, NY	Barbara C. Healy, MA
Moutinho, NY	Antonio J. Santos, NY	Barbara Cyr, MA
Anthony and Elizabeth	Antonio Pinto, NY	Barbara Dannenbring, NY
Schepis, NY	Antonios Sakalis, MA	Barbara Doherty, NY
Anthony and Jacqueline	April Baker and Delroy	Barbara Dziuba, CT
Brigandi, NY	Levy, NY	Barbara Grady, NY
Anthony and Joanne	April Scheller, CT	Barbara H. Hopkins, MA
Cangialosi, NY	Ardys Campbell, NY	Barbara Kopple, NY
Anthony and Linda Nicolosi, NY	Arista Navickas, MA	Barbara L. Taggart, MA
Anthony and Lucille	Arlene Ajami and Rosalyn	Barbara LaFemina, NY
Pitaro, CT	O'Rourke, CT	Barbara Stanton and William
Anthony and Maria	Arlene G. Holt, CT	P. Conley, TS and
Bonanno, NY	Arlene Goodenough, NY	Patricia Conley
Anthony and Rosemarie	Aron Shevis, NY	Irrevocable Trust and
Caramanno, NY	Artemas Beattie, Jr., NY	Stanton Irrevocable
Anthony Ascencao, NY	Artemis Yiannakou, NY	Trust, MA
Anthony C. Russo, NY	Arthur and Melena	Barbara Stewart, NY
Anthony Campea, NY	Pirint, MA	Barbara Thompson, NY
Anthony Chiaverimi, NY	Arthur C. and Carol M.	Barry Zuckerman, NY
Anthony Corigliano, NY	Tornatore, CT	Bashir Suba, NY
Anthony D. and Heidi S.	Arthur Joseph, Ts, Irene T.	Bearnice Croft, NY
Boone, CT	and David W. and	Beatrice and Louis
Anthony D. and Ida M.	Arthur Joseph Family	Morris, NY
Debellis, NY	Revoc., MA	Beatriz Lulo, MA
Anthony Derosa, NY	Audra and Christopher Morrison, NY	Begin Family Revocable
Anthony Furia, NY	Audrey and Henry	Trust, Arthur J. Begin, Jr. and
Anthony J. Smith, NY	Pollak, NY	Richard E. Begin,
Anthony M. and Joan M.	Audrey and Michael	Trust., MA
Rizzo, Sr. c/o Jar	Coogan, NY	Belkis Mendez, NY
Associates, CT	Augusto DeMelo, NY	Benjamin and Minerva
Anthony P. and Vito F. and	Ava Gips, MA	Abramson, NY
Amanuele A. Foto, NY	Avelino S. Tavares, VA	Benjamin Dasilva and Jean
Anthony Rivera, NY	•	Cotra, CT

Anthony Rivera, NY

Individuals (cont'd)	Brian Sullivan, NY	Caroline Mock and Kimberly
Benny Siniscalchi, NY	Brian, Neil W. and Rena A.	Bisset, MA
Bernadette Linstrum, CT	Fisk, CT	Carolyn Altieri, NY
Bernard and Kathleen Pecoraro, NY	Brigid T. and Jose I. Luzarraga, NY	Carolyn and Ron Timcoe, NY
Bernard and Prudence Oseit	Broc D. Jackson, MA	Carolyn Barthel, MA
Tutu, NY	Bruce and Barbara	Carolyn Fielding, NY
Bernard and Stephanie	Gordon, NY	Carolyn R. Griffiths, NY
Vaughey, NY	Bruce and Kathryn	Carrie Litos, NY
Bernard J. and Jeanette G.	Tracy, NY	Cary DeBenedictis, NY
Defazio, CT	Bruce G. Gerbert, NY	Caryn Ann and Robert J.
Bert Realty Trust c/o Thomas	Bruck Habtemarian and	Falesto, Jr., NY
F. Ward Tr., MA	Makeda Essayas, MA	Cassandra Roth, NY
Bettina Mayer, NY	•	Catherine and Karen
Betty A. Roberts, CT	Bryan R. and Robin Williams, NY	Rago, NY
Betty Lee Shalou, RI	Bryan V. Doto, CT	Catherine and Lane Farber
Betty Smyth, NY	Burchenal Green, NY	Schmitz, NY
Bharat Mistry, NY	C. McGuigan, NY	Catherine Creecy and George
Bill Meyer, NY		P. Providakes, MA
Bob Kelleher, NY	Camille Solomone, NY	Catherine Marsh, NY
Bonnie B. Doran, CT	Candace M. Almeida, MA	Catherine Monzillo, NY
Bradlee Sheldon, PA	Carl F. and Cindy Pavolic, NY	Cathy Quaranta, NY
Bradley and Diane	•	Cecilia A. Clancy, CT
Conklin, NY	Carl Grimm, NY	Celistino Arias, NY
Brenda J. and Paul	Carlos and Maryann Ascencao, NY	Cesare Pasquale, NY
Gibeau, RI	Carmela Pulsoni, CT	Chandler S. Davis, CT
Brenda Mae Rose and	Carmelo Apollonio, NY	Chandresh and Hemlata
William J. Oliver, NY	Carmine and Emdio Incretolli	Patel, NY
	et al., MA	Chaouki F. and Zeinan
Brenda Timm, NY	Carmine L. and Lorraine M.	Freiha, MA
Brian and Colleen Cunningham, MA	Colarossi, NY	Charles and Francine Lee, NY
Brian and Geraldine	Carmine, Joseph A., and Joseph C. Saetta, NY	Charles and Jenny Zhao, CT
Joyce, NY	Carol A. Nettis, Revocable	Charles and Lisa
Brian and Julie Murphy, NY	Living Trust, CT	Bruzzese, NY
Brian and Stacey Retallick, NY	Carol Ackbarali, NY	Charles and Margaret Lent, NY
Brian Blackmar, CT	Carol and Matthew M.	Charles and Paula
Brian C. and Kristine A.	Zugibe, NY	Roberts, NY
Straub, MA	Carol Heller, NY	Charles and Rose Marie
Brian M. Dunning, MA	Carol Keenan, NY	Barry, NY
Brian Shovlin and	Carol P. Abraham, NY	Charles and Terry
AnneMarie Needham	Caroline DePalma, NY	Martinelli, NY

Charles Blumeling, III, NJ

Caroline M. Harrison, CT

Needham, NY

Individuals (cont'd)	Christine Metzger, NY	Conrad Starsja, NY
Charles D. and Gilselia F.	Christine Michel and Jean	Constance B. Doubleday and
Farias, MA	Commaire Michel, NY	Chelsea Benson, CT
Charles E. and Yvon Hock, III, NY	Christine Muscolo, CA	Cora Weis, NY
Charles Grauer, NY	Christine R. Ferron, CT	Cordis and Michael
Charles Grauer, NT  Charles L. and Jennifer Lee-	Christine Schuster, NY	Macalpin, NY Cornelius O'Callaghan, MA
Craig Craig, NY		Courtney O'Connor, MA
Charles Martinelli and Terry	Christofores Karistianos, TC, Despina and	<del>.</del>
and Bianca and	Antonios and Agiro	Craig and Jodi Caliciotti, NY
Kenneth	Yanikas and Anthipi	Craig and Michele Purpura, NY
Reynolds, NY	Papangelis, MA	Craig Schultz, NY
Charles R. Jr. and Barbara	Christopher A. and Susan A.	Craig Stevens, NY
Jean Keesler, NY Charles W. Shur, CT	Hermonot, CT Christopher and April	Csaba Toth, NY
Charlie Hayes, NY	Skennion, NY	Cumanda Torres and Cesar
Charlie Hayes, NT  Chas and Frances Travis, NY	Christopher and Debra	Bermeo and Pam
Cherita, Eva M., Debbie and	D'Andrea, NY	Torres, NY
Andrew Gonzales,	Christopher and Rochelle	Curtis B. Randall and
MA	Morello, NY	Barbara B. Zillman, MA
Cheryl and Chester	Christopher B. and Lisa M.	Cynthia A. Rogers, CT
Andrews, CT	Buteux, NY	Cynthia Butler-Martin, NY
Cheryl I. and James F.	Christopher M. Niemiec, NY	Cynthia D. Arons, CT
Gilmore, NY	Christopher R. and Stacey Sharpe, NY	Cynthia J. Slotkin, NY
Chi Cam, NY	Cindy L. Miller, MA	Cynthia Lee, NY
Chiffriller Residence, NY	Claire Silvers, MA	Cynthia Neff, NY
Chris and Karen Londergan, MA	Claire Zoller, NY	D. Correia, NY
Chris and Wayne	Claires S. and Nathaniel J.	Dahmein and Michele
Kocher, NY	Rogers, CT	McFadden, NY
Chris Oliver, NY	Clara and Edward	Dale and Stephen C.
Chris Wethered, NY	Ferreyra, NY	Dubina, CT
Christina A. Collins and	Claudette and Jean-Claude	Dan and Christine Wu, MA
Stephen S.	Cadet, NY	Dan Killeen, Estate of, CT
Aprille, MA	Clement and Rhonda L. Thompson, Jr., NY	Dan Welsh, NY
Christina Dakin, NY	Cleofe Cuevas, NY	Dana Dionizio, NY
Christina Furfaro, NY	Clifford T. Silva, RI	Dana S. Jr. Evans, RI
Christina S. Ponsades and Luz P. Rone, NY	Colleen and Brian Kelly, NY	Dani and Jonathan
Christine and Kenneth	Colleen C. Morrill, CT	Glaser, NY
Confrey, NY	Colleen Klimek, NY	Daniel and Rayola Chelladurai, NY
Christine Knowlton, NY	Collin Rees, MA	Daniel and Susan
Christine M. and Douglas R.	Conchita and Evelyn	Mahoney, NY
Esposito, CT	Regacho, NY	Daniel B. Collins, MA
Christina Marklay NV	<del>-</del>	

Christine Markley, NY

**Individuals (cont'd)** David and Stephany Declan Plunkett, CT Fanning, CT Daniel C. and Nancy J. Deidre and Donald Wood, NY Lourenco, MA David and Veronica T. Oxton, NY Daniel C. and Sheila E DelRoy Paisley, NY Anderson, CO David B. Harris, RI Denise and Otto Staats, NY Daniel M. and Cynthia David Buchwald, NY Denise Diri, NY Barry, NY David D. and Terrel L Denise Ward, MA Anderson, CT Daniel Murphy, NY Dennis and Kathryn A. Daniel N. Field, CT David Dietrich, NY Sherman, RI Daniel P. Keating, NY David Doskow, NY Dennis Drinnon, NY Daniel Stewart, NY David Forrest, CT Dennis Gormley, NY Daniel T. Keon, NY David H. and Barbara C. Deno W. Debacco and Vaughan, CT Daniel V. and Karen A. Jennifer M., NY Mancuso, NY David Holstein, CT Derek Swart, MA Daniella Bernal, NY David J. and Donnam Diana A. Kelly, MA Dimartino, MA Danielle Mantei, NY Diana and Nelson David Kantarges, MA Danine Skelly, NY Sanchez, NY David Lewine, NY Danny R. Warren, Diane and John Tangen, NY Trustee, MA David M. and Stephanie Dianna M. Piccarini, MA Renzi, NY Darcy Ann Witenko, CT Dianne and Phillip David McEvoy, NY Daria Gregg, NY Picciano, NY David McGuine, NY Darrell C. Byers, MA Dick Nelson, NY David Morkal and Kathleen Darrell Marriott, NY DiCola Residence, NY Williams, NY Dinis and Maria Daryl Paxson, NY David Schassler, NY Demedeiros, CT Dave Buren, CT David Sherman, NY Dino P. Ricafranca and Lori David A. and Kathryn A. David Thomas and Heather J. A. Cormier, CT Cox. MA Gruwell, CT Dino Thomas, et al. and David A. Trudeau, CT Dawn and Matthew Thomas Triantos. David Abraham, NY Norris, NY TC, MA David and Cindy Postian, NY Dawn Budde, NY Diomaris Contreras, NY David and Dorothy Dawn Russo, NY Djavid and Florim Raci, NY Diederich, NY Dean McBeth, NY Dmitriy Khazanov, MA David and Dorothy Deanna Rose, NY Dominic Caputo, NY Perez, NY Debbie Costello, NY Dominic Jacaruso, NJ David and Gloria Debbie Juckett, NY Dominic W. Pezzementi, NY Weinshel, CT David and Mary Rosario, CT Deborah Kaufman, NY Donald and Anne Singer, NY David and Nancy Kahn, CT Deborah Plunkett, NY Donald and Heather Spaulding, CT David and Patricia A. Debra A. Gagnon, CT Martin, NY Donald and Marie Debra Alvernes, RI Dwyer, NY David and Po Chu Alice Debra and Robert W. Donald and Rosemary Lee, NY Mcnamara, NY

Debra O'Connor, NY

Emeigh, NY

<b>Individuals (cont'd)</b>	Douglas J. and Victoria	Edward P. Foley, Jr., MA
Donald Depew, NY	Taggart, NY	Edward R. Lynch, NY
Donald Edwards, NY	Douglas Mead, NY	Edward S. and Carolyn M.
Donald Hogancamp, NY	Douglas Slotolowicz, NY	Pajak, CT
Donald J. Akikie, Marilyn	Douglas Whitbeck, NH	Edward Stebenvole, NY
Cox and Mary N. and	Dr. Courtney Williams, NY	Edward Tandy, NY
West Roxbury Realty	Dr. Frank B. and Beth A.	Efstathios Nikolaidis, etux
Trust, MA	Dorsa, NY	and Despina te Life
Donald Jr. and Dina	Dr. Thayer and Joan	Estate, MA
Kennedy, NY	Draper, NY	Eileen and Thomas La
Donald Kondash, CT	Duane and Angelique	Rosa, NY
Donald T. Watkins and	Hosang, NY	Eileen and Tom Fedele, NY
Jennifer J. Nisbet, CT	Duane Gates, CT	Eileen Charles, NY
•	Ed Doyle, MA	Eileen Feely, NY
Donald Woodard, NY	Eddie and Diane	Eileen Millane, MA
Donald Zern, NY	Pacheco, NY	Elaine Zuccardo, NY
Donna and Roland	Eddy and Kathleen Levesque,	Eleanor A. Morse, MA
Dorcean, NY	Jr., NY	Eleanor and Chester
Donna L. Tilles, MA	Edgar B. Russ, CT	Hojda, CT
Donna Starr, MA	Edith E. and Francis F. Araby	Elio Forgione, NY
Donna Strobel, NY	et al., MA	Eliza Niebrzydowski, NY
Donna Turner, NY	Edith Lubeck, NY	Elizabenth Williamson, NY
Donna Wessell, NY	Edmund R. and Marion R.	Elizabeth and Ronald B.
Doreen Rynne, MA	Fallon, et al., MA	Smith, NY
Doris M. Brown, MA	Edward and Carmen	Elizabeth Burns Scott, NY
Doris O. and Stephen J. Cole-	Tow, NY	Elizabeth M. Gilmore, NY
Hatchard, NY	Edward and Cynthia Villa, NY	Elizabeth Moore, NY
Doris Trapasso, NY		Elizabeth Sanchez, NY
Dorothea and Kenneth	Edward and Mary Jane Everett, NY	Elizabeth Tomic, NY
Brunck, NY	Edward C. and Susann E.	Ellen Cantarow, MA
Dorothy B. Morgan c/o Terry	McElroy, Jr., NY	Ellen K. Desjardins, CT
Morgan, PA	Edward DuBeau, NY	Ellen Weininger, NY
Dorothy Fielding, NY	Edward G. and Elizabeth	<b>&amp;</b> .
Dorothy O'Connor, NY	Harbolic, NY	Elouise and John Koski, NY
Dorothy Thomas, NY	Edward I. and Margarita	Emily and Valerie Sweeney, NY
Dorothy Tonich, NY	Bushka, CT	•
Dorothy Williams, NY	Edward J. Reed, NY	Eric and Michelle Gulak, NY
Doug Ballard, NY	Edward L. Duryea, NY	Eric G. and Catherine Johansen, NY
Douglas A. and Michelle J.	Edward M. and Clare	Eric Gearity, NY
Viohl Cole-	Fried, NY	•
Hatchard, NY	Edward Martin, NY	Erica and Chad Mills, NY
Douglas and Eileen M.	Edward P and Janet White	Erika Schenker, NY

Edward P. and Janet White,

II, NY

Odell, NY

Individuals (cont'd)	Frances and Victoria Losicco, NY	Frank I. and Evelyn A. Banas, CT
Erin and James Trapasso, NY	Frances Gallery, NY	Frank J. and Maria J.
Erin T. and Enoch E. Elliott, CT	Frances Hammond, NY	Naglieri, NY
Ermanno and Patricia	Frances Ludwig, MA	Frank Macaluso, NY
Munno, NY	Frances Stellato, NY	Frank P. Depolito, CT
Ernest G. and Aidinha B.	Francesco Ward, NY	Frank P. DePolito, CT
Blaney, Jr., CT	Francine Snyder, NY	Frank P. Donohue, NY
Ernest J. and Dorothy A.	Francine Wiese, NY	Frank R. Cernuto, CT
Pandolfi, CT	Francis and Daren	Frank Silva, RI
Ernie Dufek and Cynthia	Hanley, NY	Frank W. Thomas, NY
Dandreano, NY	Francis J. and Catherine T.	Frankie Pisano, NY
Erwin G. Tr. Kuebler, CT	Gaffney, Sr. et	Fred Gaston, NY
Estela Reveles, NY	al., MA	Fred H. and Mary C. Davis,
Estephan T. and Mima E.	Francis Kent, MA	et al., MA
Matar, MA	Francis N. Gobbi, MA	Fred Ribe, CT
Ethel A. Omasta, CT	Francois Youhanna, MA	Frederick and Kim
Ethel Lonergan, NY	Frank A and Cecilia F.	Capozzoli, RI
Eugene and Cynthia McNamara, NY	Soccodato, NY	Frederick J. and Marino
Eugene and Paula Barra, NY	Frank A. and Deborah M.	Marino, NY
Eugene Skelly, NY	Kline, NY	Fredys Medina, MA
Eva Lupica, NY	Frank A. and Rosalie A. Baldi, NY	Gabriel E. and Kathleen M.
F.J. Domingo, NY	Frank A. Iannaccone, III, NY	Calvo, CT
Fabio, Filomena and Victor	Frank and Carol	Gabriel P. and Melissa Hayes, NY
Carlevale, MA	Cricchio, NY	Gail A. Glavin, MA
Fang Hong and Loujia Shi	Frank and Cynthia	Gail and Edward Monks, NY
Mao, MA	Funigiello, NY	Gail Tomassetti, NY
Fargo Hadayia, Ts., Jean T.	Frank and Elizabeth	Garrett and Andrea
and Hadbro 1997	Conklin, NY	Higgins, NY
Realty Trus, MA	Frank and Irene	Gary and Jeanne D.
Fargo Hadayia, Ts., Jean T. and Hadbro 1997	Zuccarello, NY	Shaw, NY
Realty Trust, MA	Frank and Jadwiga D. Rozwadowski,	Gary and Joanne
Fargo Hadayia, Ts., Jean T.	Trustees, CT	Blauvelt, NY
and Hadbro 1997	Frank and Judy LoSasso, NY	Gary Galanti, NY
Realty Trust, MA	Frank and Kathleen P.	Gary Harbolic, NY
Fernando Nunez, MA	Falco, NY	Gary P. Dyckman, NY
Florence Jordan, NY	Frank and Patricia	Gary R. and Karen E.
Floriano G. Bove, NY	Wassil, NY	Sardone, CT
Florim Rraci, NY	Frank D. and Patricia V.	George and Jacquelyne Seidler, NY
Florindo and Jennifer W.	Aversa, NY	George and Janet Boyle, NY
Volpacchio, Jr., NY	Frank Garigali, NY	George and Marianna

George and Marianne Oros, NY

Individuals (cont'd)	Gillen, NY	Harry Davis, NY
George Coniglio, NY	Gina and Davide Gomes, NY	Harry Eisenberg, NY
George D. and Catherine G. Leiloglou, et al., TX	Gina Saia, MA Gino Bonomo, NY	Harry Mah et al., Trustee Mah Family
George E. Keefe, NY	Giovanni Carlo Mino, NY	Trust, MA
George E. Somers, NY George Edward and	Giuseppe and Barbara Paonessa, NY	Harry P. and Dilys B. McIntyre, Jr., CT
Constance Sue McCombe, NY	Glenn and Linda Ellingsen, NY	Harry T. and Lori Moser, NY Heather Nicholls and Patrick
George F. Raffoul and Thomas G. and Marilyn A. Oleary and Raffoul Suffolk Realty Tr., MA	Glenn Creeden, NY Glenn Dewton and Susana Correa, NY Gloria A. Dirusso, MA	McCaughey, NY Hector N. and Daisy Rivera, CT Hegarty Residence, NY
George Fox and Christine Bedrosian, NY	Gloria and Joseph Zale, NY Gloria P. Rodriguez et al. and	Helen and Cheyl Lopez Vozzella et al., MA Helen and Richard Cisek, NY
George Hansen and Grete Binau, CT	Luis E. Montes, MA Gough Residence, NY	Helen C. Best, MA
George M. and Jessica L. Stephens, CT	Grace M. Charles, NY Gregory and Barbara A.	Helen Curran, NY Helen M. Ewald, CT
George M. Hagar and Ramona A. Bailey, CT	Schnuck, CT Gregory and Laura Gaynor, NY	Helen Madden, Trust IRR., NY Helen Meurer, NY
George Millett, MA	Gregory and Natalie Roy, CT	Henry Vasel, CT
George Ondek, NY	Gretchen Flintosh, NY	Henry Westmoreland, NY
George Randt, Jr., NY	Gretchen Pingel, NY	Herbert Oringel, NY
George W. and Mercedes M. Long, MA	Guillermo A. and Amelie Sanchez -	Herman Kahrs, c/o Platzl Brauhaus, NY
George Zlotnick, CT	Martinez, CT	Herrera and Leon
Gerald and Anne	Guiwa Lakkis, MA	Residence, NY
Ahearn, MA	Gulmira A. David, MA	Hill Residence, NY
Gerald and Carmen Williams, NY	Guy Carlo B. and Flordeliza L. Ramel, MA	Hillary Fontana, NY Holly and Mike Eichler, NY
Gerald and Sondra Levine, NY	Guy G. and Nicole Isidore, NY	Holly M. Haight, NY Homer and Joyce Ludlan-
Geralyn and James Alva, NY	H. Carosi, NY	Smith Smith, NY
Gerard Canavan, Ts., MA	H. Winkelmann, NY	Hope Solomon, NY
Ghassan W. and Lena Samaha, MA	H.J. Von Der Goltz, MA Harinder B.S. and Irene Mary	Howard and Phyllis Stapleton, NY
Gil and Kela Fredrickson, NY	Jalli, CT Harold B. Jr. and Eileen T.	Howard C. and Analiza T. Traub, III, MA
Gilbert and Denine	Peterson, NY	Hugh O'Halloran, NY
Dimola, NY Gilbert and Lois Longin, NY Gilbert Maralla, NY	Harrison B. Jones and Michael P. Roopey, NY	Ilia Jr. and Carolyn A. Diterichs, CT

Rooney, NY

Gilberte Morello, NY

Individuals (cont'd)	James J. Sepinski, NY	Jay Sulow, NY
Irving J. Kulick, etal c/o	James J. Yates, MA	Jean and Dennis
Alice Kulick, NY	James Johnson, NY	McCool, NY
Irwin Gladstone, NY	James L. Park, MA	Jean C. and William
Isabelle T. Farrington, Living	James M. and Kathleen M.	Breining, NY
Trust, NY	Grogan, MA	Jean L. and Marie
Ismael and Zenaida	James M. Whitfield and	Villard, MA Jean M. Collender, NY
Perez, NY	Margaret Adams-	,
Jackson W. Davis and Patricia C., FL	Whitfield, MA	Jean M. Steward, MA
Jacob and Paula Vaug	James Michael and Melinda J. Trimble, NY	Jean Piucci, NY
Miller, NY	James P. and Frances E.	Jean Walsh, NY
Jacqueline and Omar	Surak, NY	Jeanette C. Gould, NY
Irhan, NY	James P. and Mary E.	Jeanette H. Bjurback and Nicholas E.
Jacqueline Doherty, NY	Leonard, NY	Lupinacci, CT
Jacqueline Karaban, NY	James Russell, NY	Jeanmarie Cooney, NY
Jaime Ferrari, NY	James Seirmarco, NY	Jeanne Elven, CT
James and Joan Sloat, NY	James V. and Marguerite A.	Jeanne Hoffman c/o Holly
James and Julie Tuite, MA	Veltidi, NY	Siegel, NY
James and Kathleen	James W. Currier, CT	Jeanne Hoffman c/o Lee
Deely, NY	James W. Quill, MA	Hoffman, Jr.
James and Mary Lou	Jami S. Pascale, NY	Esq., NY
Baryza, NY	Jamie and Maria	Jeanne M. Graham, MA
James and Patricia	Loureiro, NY	Jeff Yates, CT
James and Patricia Reilly, NY	Loureiro, NY Jan B. Kavana, NY	Jeff Yates, CT Jefferson Simplice et al. and
James and Patricia Reilly, NY James and Rita Lippert, NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA
James and Patricia Reilly, NY James and Rita Lippert, NY James and Salvatrice	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly
James and Patricia Reilly, NY James and Rita Lippert, NY James and Salvatrice D'Amore, NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY  James Dolan, NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael Warren, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA Jeffrey and Marian
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael Warren, NY Jane Kelleher, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA Jeffrey and Marian Bischoff, NY Jeffrey C. and Alane E. Jennings, CT
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY  James Dolan, NY  James E. and Robert	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael Warren, NY Jane Kelleher, NY Janet Curry, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA Jeffrey and Marian Bischoff, NY Jeffrey C. and Alane E. Jennings, CT Jeffrey C. and Mary C.
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY  James Dolan, NY  James E. and Robert McCaw, CT	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael Warren, NY Jane Kelleher, NY Janet Curry, NY Janet Englund, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA Jeffrey and Marian Bischoff, NY Jeffrey C. and Alane E. Jennings, CT Jeffrey C. and Mary C. Campbell, NY
James and Patricia Reilly, NY  James and Rita Lippert, NY  James and Salvatrice D'Amore, NY  James Bacon, Esq., NY  James Dolan, NY  James E. and Robert McCaw, CT  James E. Eagens, NY	Loureiro, NY Jan B. Kavana, NY Jan Meliti, NY Jan R. Dyckman, NY Jane E. Moorhead, CA Jane G. Warren c/o Michael Warren, NY Jane Kelleher, NY Janet Curry, NY Janet Englund, NY Janet Guerra, NY	Jeff Yates, CT Jefferson Simplice et al. and Therese Pierre, MA Jeffery and Kimberly Burd, MA Jeffrey and Marian Bischoff, NY Jeffrey C. and Alane E. Jennings, CT Jeffrey C. and Mary C. Campbell, NY Jeffrey Coleman, NY
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Preetam and Yadita	Ruyack, NY	Robert and Barbara	
Samnarain, NY	Richard and Jilia Tilger, NY	Archambeault, CT	
Priscilla Coughlin, NY	Richard and Lisa Urban, NY	Robert and Donna	
Quentin J. Hanrahan, NY	Richard and Theresa	Palazzo, NY	
Radhika Hernandez, NY	Walsh, NY	Robert and Ellen	
Rafael and Laura Silva, NY	Richard Becker, NY	Buczkowski, NY	
Raffaele Iamiceli, NY	Richard Boylan, NY	Robert and Erika Diaz	
Raj and Linda Kanojia, NY	Richard D. and Emma L.	Caputo, CT	
Rajadevia A. Satchi, CT	Clarke, CT	Robert and Janet	
Ralph and Lucille	Richard F., Ronald L., and	Sullivan, NY	
Marchitelli, NY	Terry T. Bushka, CT	Robert and Karin Miller, NY	
Ralph DeGroat, Sr., NY	Richard G. and Helen Weingart, CT	Robert and Linda Burden, NY	
Ralph Major, NY	Richard G. and Lianne M.	Robert and Linda Fuerst, NY	
Ralph Serpe, NY	Moses and Ler P.	Robert and Sandy Walsh, NY	
Ralph Tharua, NY	Realty Trust, MA	Robert and Serafina	
Ramin Abrishamian, MA	Richard Isaacson, NY	Bates, NY	
Raul Villa and Digna Esperan Tacuri, NY	Richard J. Beaulieu, CT	Robert and Susan	
Ravi Buckredan, NY	Richard K. and Hope E.	Heiferman, NY	
	Wise, CT	Robert Benedetto, NY	
Ray J. Norton, Jr., MA Raygo and Dawanna	Richard Knizeski, NY	Robert C. Grimes, Jr., CT	
Veneable, NY	Richard Lutkevich and Patrick and Sheila	Robert Codman and Bonnie Hanes, Jr., MA	
Raymond A. Reber, NY	Walsh, NY	Robert E. and Evelyn	
Raymond and Geraldine Campbell, NY	Richard Nelund, NY	Hatcher, MA	
Raymond D. Bertrand, MA	Richard P. and Tulay Luciano, CT	Robert F. and Kathleen	
Raymond Haas, NY		Dymes, NY	
•	Richard Perugini, NY	Robert F. and Lynn A.	
Rebecca Quigley, NY	Richard Rowlands, NY	Morris, MA	
Regina R. Keefe, NY	Richard Ruffini and Lillian Lumadue, MA	Robert F. Curran, NY	
Regina Wooster, NY	Richard S. and Terry Lynn	Robert G. and Linda A. Kovacs, CT	
Reid H. Gearhart and Tiziana Mohorovic, NY	Shaffer, III, CT	Robert G. Capron, RI	
141011010410, 14 1	- , , <del>-</del>	Robert G. Capion, Ki	

Individuals (cont'd)	Roberta Gaudinier, NY	Rosedale and Roland
Robert H. Reissfelder,	Robin A. and Kathryn L.	Duguesnay, CT
Jr., MA	Chesmer, CT	Rosemarie DeMasi, NY
Robert Ingenito, NY	Robin L. Gilman, CT	Rosemarie Muscolo, NY
Robert J. and Beverly Winoski, CT	Rodney and Rena jt Oudan, et al., MA	Rosemarie Novelli- Salyer, NY
Robert J. and Dolores Stein, NY	Rodolfo and Marie Antoinette	Rosemary and Dennis Lasher, NY
Robert J. and Patricia	Franze, NY	Rosemary and Viggo
Maio, NY	Roger M. and Georgette E.	Worum, NY
Robert J. Lewis, NY	Kiami, MA	Rosemary True, NY
Robert J. Reardon, NY	Roger Olson, NY	Rosmarie Fint, NY
Robert K. and Patricia	Roger R. Van Horn, NY	Roth Residence, NY
Goethals, NY	Rogerio M. and Filomena V.	Roy B. Fleming, CT
Robert L. Mazza, et al. and	Pereira, CT	Rudolph F. and Joan L.
Norbert C. Nyhan,	Rolland Wayne and Noreen	Schwerdt, NY
Jr., MA	Eloise Clarno, CT	Russell and Jane B. McNeil,
Robert Lynch, NY Robert M. and Gloria	Romona Desire, MA	Ts. and Washington
Jackman, NY	Romona Genao-Archibald and Mark	Realty Trust, MA
Robert Mastroddi, NY	Archibald, NY	Russell W. Wilson and Richard E.
Robert McFadden, NY	Romualdo and Gian	McGuinness, MA
Robert Moskowitz, CT	Altobelli, NY	Ruth Spaeth, NY
Robert N. Hudson, NY	Romulo Neira, CT	Ryan Black, MA
Robert P. Deshiro etux and	Ron Urban, NY	Ryan Patrick Arsenault, MA
Mary Lou Deshiro, Life Estate, MA	Ronald C. and Donna M. Geck, CT	Ryan W. and Patricia S. Hawthorne, CT
Robert Pelaccio c/o Anya H.	Ronald D. Rosen, NY	S. O'Reilly, NY
Wehlau, NY	Ronald J. and Barbara	Saladino Residence, NY
Robert Raymond and Patricia	Anstett, NY	Salvatore A. and Cynthia C.
Mary Thompson, NY	Ronald J. Fontaine, MA	Branca, NY
Robert S. Carter, etux and	Ronald Lapinsky, NY	Salvatore B. Chillemi, MA
Louise A. te Louise A. te, MA	Ronan V. and Margaret O'Brien, NY	Salvatore Bottiglieri, NY
Robert Scott, NY	Rosa Arias, MA	Sam Kleiner, CT
Robert Strumke, NY	Rosa Goncalves, NY	Samantha Zide, MA
Robert Thomas, CT	Rosa Mitrione, NY	Samuel Osborne, Jr., NY
Robert Ukeiley, KY	Rosa Varella, NY	Samuel R. Piotrkowski c/o Petrowski
Robert V. and Mary G.	Rosaria A. Gomez, MA	Auctioneers Inc., CT
Cieri, CT	Rose Ann and John	Sandra J. McNichols, MA
Robert Vera and Norma	Billings, NY	Sandra M. and Bernardo
Velazquez, CT	Rose Cosentino, NY	Rey, CT
Robert W. and Laurie	Rose Mason, NY	Sandra M. Blakeslee, CT

Cusick, NY

**Individuals (cont'd)** Sheldon and Teres Charles et Steve Dohoney, CT ux, MA Santo S. Vinci, Sr., CT Steven A. Boucher, CT Shelley Avellino, NY Sarah D. and Stanley D. Steven and Carol Russo, NY Gromm, NY Shelly R. Eaddy, NY Steven and Sue C. Sarah J. Schmidt Hirakis, CT Sherri L. and Walter A. Singer, NY Porr. NY Sarita Eisenstark, NY Steven Bernstein, MA Sherry Horowitz, NY Savvas Iliades, Ts. and Steven M. Stein, NY Dimitra Realty Silvia Estebanez, NY Steven R. and Christi Trust, MA Siobhan Rossi, NY Araujo, NY Schembari Residence, NY Smith Residence, NY Steven R. and Marlene R. Dupre, RI Scott Allison, NY Son Van and Aparecida Scott Horton, NY Nguyen Etux, MA Steven W. and Dana Grossman, NY Scott M. and Amy J. Sonda and Gerald Hingley, RI Levine, NY Stuart H. Rickett, DDS, NY Scott Moreau, NY Sonia and Gueron Nava Sujatha Dasari and Veera Aloya, FL Indana, NY Seamus and Eileen Sonia Fujimori and Scott Sullivan Residence, NY Coughlan, NY Crowder, NY Sean M. Walsh, MA Sung and Hye Ahn, NY Sonnia Carbone, NY Sean W. and Lisa M. Suresh Packiriswamy, CT Bucher, CT Sonya Lewis, NY Susan and Gerald Peet, NY Selina and Joseph Stacey M. Kelliher, MA Susan Burke, NY Medoro, NY Stacy Conklin Chalk, NY Susan Cuccinello, NY Selya and Lawrence Stanley and Barbara Susan Dugaw, NY Stone, NY Jacobs, NY Susan F. and Paul B. Serge and Waleria Stephan W. Anstett, NY Matthews, NY Isabelle, CT Stephanie and J. Susan Filgueras, NY Seth and Gina Lipscher, NY Schembari, NY Susan Kikoler, NY Seth and Jeannie Stephen A. Kelley and Seana Susan McDonnell, NY Weinstein, NY M. Pitt, NY Susan Moriarty, MA Seymour Adelman, CT Stephen and Anne Susan Oelkers, NY Shannon Boylan, RI Bingman, NY Susan Peckelis, NY Stephen and Jean A. Shannon Quinn, NY Klubko, CT Susan Redlich, MA Sharon Bellas, NY Stephen Costa, NY Susan Schwarz, NY Sharon Bodenschatz, NY Suzannah Glidden, NY Stephen J. and Ann M. Cole-Sharon Gilleo, NY Hatchard, NY Tandy Residence, NY Sharon Murphy, NY Stephen J. and Mary Lou Tasso Lambrou and Mihail Sharon Paterno and Craig Zmijeski, CT Triantafillou, NY Perusini, NJ Stephen Kohlhase, CT Terence and Toni Ann Sharyn Kuss, NY Dwyer, NY Stephen M. Davis, MA Shawn McGillicuddy, CT Stephen V. and Angela J. Teresa Guerriero, NY Sheila and John Collins, NY Corozine, NY Teresa J. and Lawrence S.

Stephen Z. and Yang Yang

Edmondson, CT

Fagan, et al., MA

Sheila Bushkin-Bedient, NY

Individuals (cont'd)	Thomas J. Shakun and	Vernon and Lisa Cole, NY
Terrence R. and Rachel B.	Pamela Cummings	Veryl Stubbs, CT
McGregor, MA	Shakun, CT	Victor G. and Barbara F.
Terri Halliday, MA	Thomas Joseph and	Rickard, Sr., NY
Teymour and Cheri E.	Annemarie	Victor Handal, CT
Jamal, MA	Carey, MA	Victor P. and Marie
Theodore and Lynn	Thomas L. Holmgren, Trustee, CT	Zugibe, NY
Needlemen, NY	Thomas Lorino, NY	Victor P. and Patricia
Theodore and Rosemary	·	Zugibe, NY
Perrin, NY	Thomas M. Hopkins, NY	Victor P. Jr. Zugibe, NY
Theodore L. and Carol A.	Thomas McCaffrey and Margaret A.	Victoria Goldberg, NY
Schultz, NY	Richmond, NY	Vincent and Anita T.
Theresa A Augustine, CT	Thomas Mobbs, NY	Savastano, NY
Theresa DiBitetto, NY	Thomas N. Connery, CT	Vincent and Marie
Theresa Jessup, NY	Thomas Tramantano, NY	Orlando, MA
Theresa Kardos, NY	Thomas W. Gonzalez, NY	Vincent Annuziata and
Theresa M. Grady, MA	Timothy and Kelly	Deborah Dibernardo, NY
Theresa McHale, NY	Peach, NY	Vincent D.and Rosemarie
Theresa Ryan, NY	Timothy Bleakley, NY	Fonti, NY
Thimitri Paspates et al. and	Timothy C. and Catherine F	Vincent Dert and Monica
Frannie Phillips, MA	O'Neill and One Bow	Lee, NY
Thomas A. and Denise R.	Realty Trust, MA	Vincent E. and Marie C.
Mozzer, Sr., CT	Tina Rickett, NY	Letteri, NY
Thomas and Christine Mingone, NY	Todd Tieche, NY	Vincent Furfaro, NY
Thomas and Gail	Toni Ann and Thomas	Vincent Mastriani, Jr., CT
Sinclair, NY	Fonte, NY	Vincent Tallerico, NY
Thomas and Joyce See, NY	Towers Residence, NY	Vincent Tropiano, NY
Thomas and Rachel	Tracey DeBenedictis, NY	Vincent Xavier and Kimberly
McLaughlin, NY	Tracey M. Meikle and	Freyre, NY
Thomas and Rosemarie	Richard I. Fancher,	Virginia Hickey, MA
Oppedisano, NY	Jr., CT	Virginia Rederer, NY
Thomas and Sharyn L.	Tracey Straub and Patricia Schaeffer-Straub, NY	Virginia Tadcock, NY
Duncan, MA	Traci Schultz-Brega, NY	Virginia W. Plume and Sur
Thomas Careccia, NY	Tracy Pritchard, NY	John G. Trippett, NC
Thomas Fedele, NY	Trend Residence, NY	Vivian Diaz and Richard
Thomas G. Christmas, NY	Tsinzo Residence, MA	Simo, NY
Thomas H. Von Den	•	Vivian Krizan, CT
Benken, MA	Tsvetoslav Glouzgal, CT	Vladimir Nebelitskiy, etux and Flora
Thomas J. and Ann Marie	Una Curran, NY	Nebelitskaya te, MA
McCarthy, NY	Ursula Stiloski, NY	Vreni Roduner, NY
Thomas J. and Eleanor M. Clancy, MA	V.J. Brophy, NY	Wade C.W. and Elizabeth
The same I Delay (CD)	Vernon and Laura	F W Smith CT

Geberth, NY

Thomas J. Roberts, CT

E.W. Smith, CT

**Individuals (cont'd)** 

Waldemar and Beata

Dec, NY

Walter A. and Janet S. Postel, NY

Walter Daniels, NY

Walter Jensen, CT

Walter T. Jr. Laffin and Carol A. Markesich, CT

Warren A. Smith, NY

Warren Lindholm, NY

Warren Rosenberg, NY

Warren W. Church and

Gerda C. Gofberg, CT

Wayne Calley, NY

Wei Liu, NY

Wendy Jo Haft, NY

Westley Artope and Clara M. Montague, NY

Whitson Family, NY

Wilbert and Laura Moy, MA

Willaim and Stefani

Catenzaro, CT

William A. Perry, NY

William and Frances

McClarnon, NY

William and Margaret

Franks, NY

William and Nancy L.

Strange, NY

William and Patricia

Barnett, NY

William D. and Linda E. Rifkin, NY

William G McRoberts, NY

William H. and Rose M.

Pierce, MA

William H. and Virginia S.

Madden, NY

William Herbert and Donna

L.Pfeiffer, CT

William J. and Lynn M.

Bender, NY

William J. and Rosalie V. Egan, et al., MA

William J. Fleming and

William F. Fleming

Family Tr., MA

William J. Oliver, NY

William Mattison, CT

William McGuire, NY

William R. Turke, MA

William S. Sawicky, CT

William Tsang, MA

William V. and Katherina N. Taylor Brenner, NY

Willis D Kelo, CT

Wilson Cumbe, NJ

Wm. Peter and Nellie

Dykstra, NY

Xavier Kollmeier, NY

Xiansi and Zhi Wan

Xhao, MA

Xiaohui and Haoli Jin

Zhang, MA

Yannis Mavropoulos, MA

Yolanda M. and John D.

Edwards, CT

Yurij and Leslie

Baransky, NY

Yuriy and Vorobeychik

Khoroshchak, MA

Yvonne Wilson and Cynthia

Easy, NY

Zhiping Chen, MA

Ziyong Sun and Hongwu

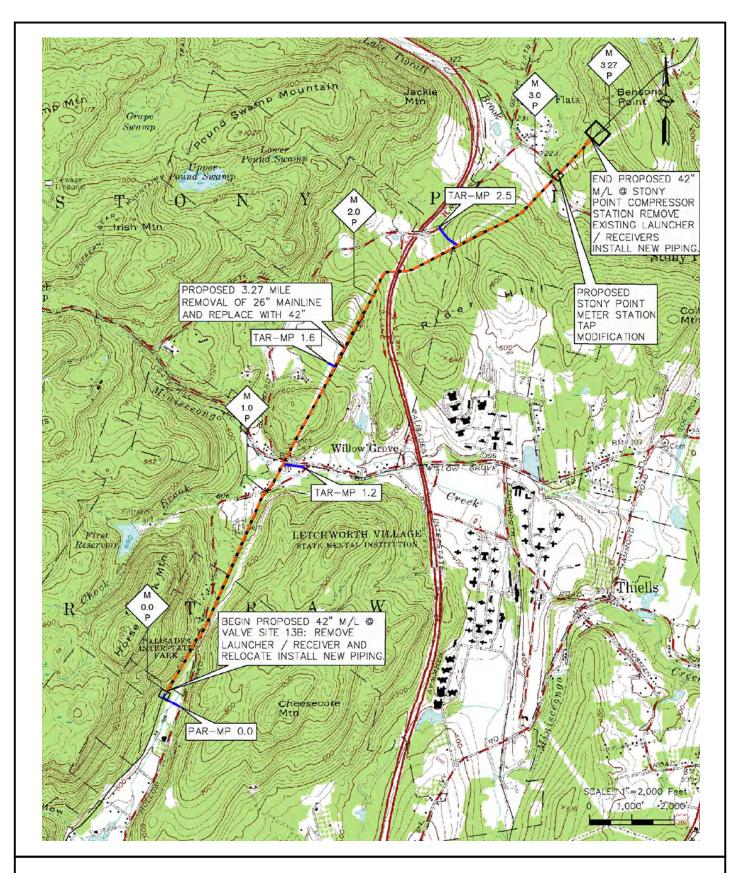
Zhang, MA

#### **APPENDIX B**

#### **FACILITY LOCATION MAPS**

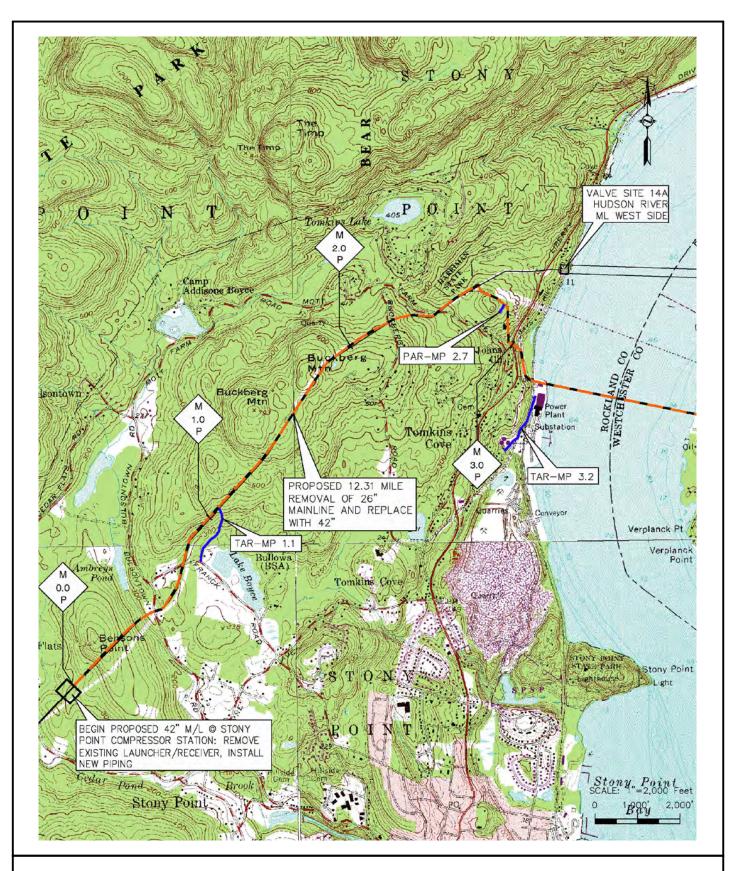
- Haverstraw to Stony Point Take-up and Relay
- Stony Point to Yorktown Take-up and Relay
- Southeast to MLV 19 Take-up and Relay
- E-1 System Lateral Take-up and Relay
- Line-36A Loop Extension
- E-1 System Lateral Loop Extension
- West Roxbury Lateral
- Existing Compressor Stations
- New York M&R Stations
- Connecticut M&R Stations
- Massachusetts M&R Stations
- Pipe and Contractor Ware Yards

**Haverstraw to Stony Point Take-up and Relay** 



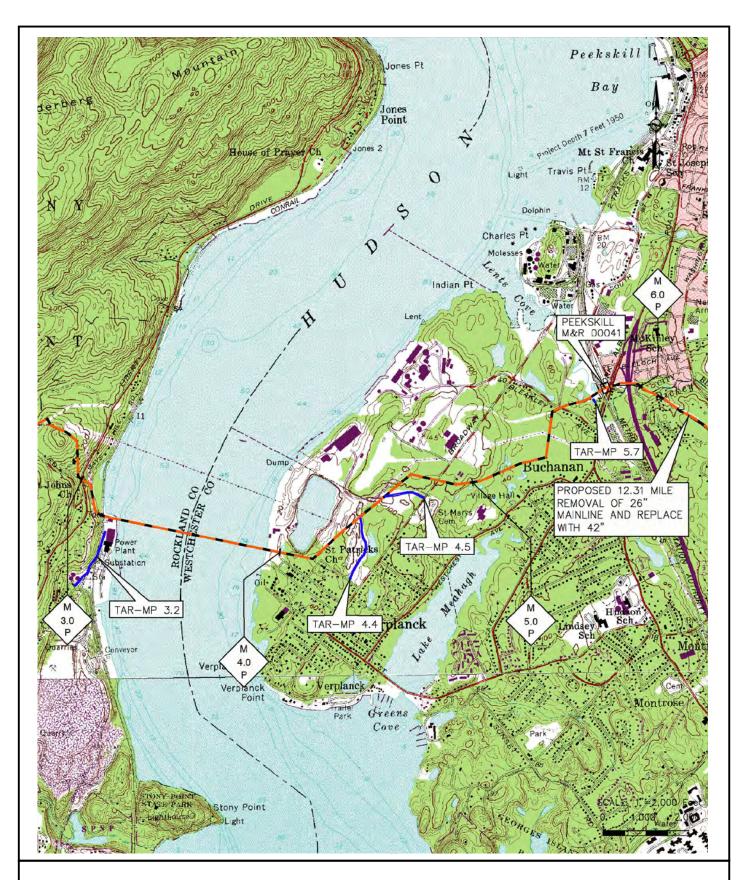
Facility Location Maps
Haverstraw to Stony Point Take-up and Relay

Stony Point to Yorktown Take-up and Relay



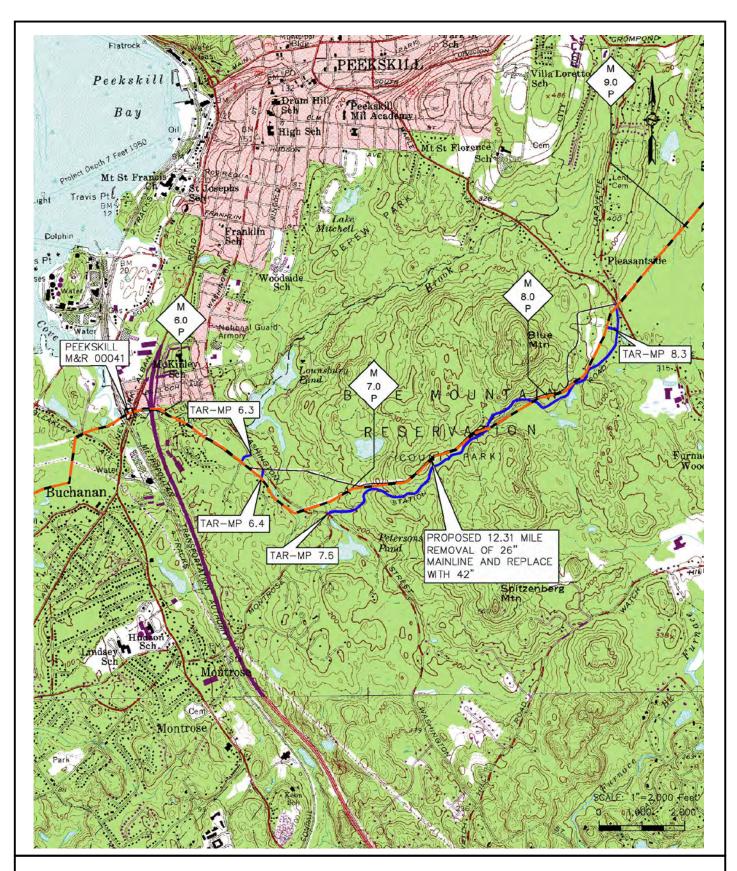
Facility Location Maps
Stony Point to Yorktown Take-up and Relay

Page 1 of 5



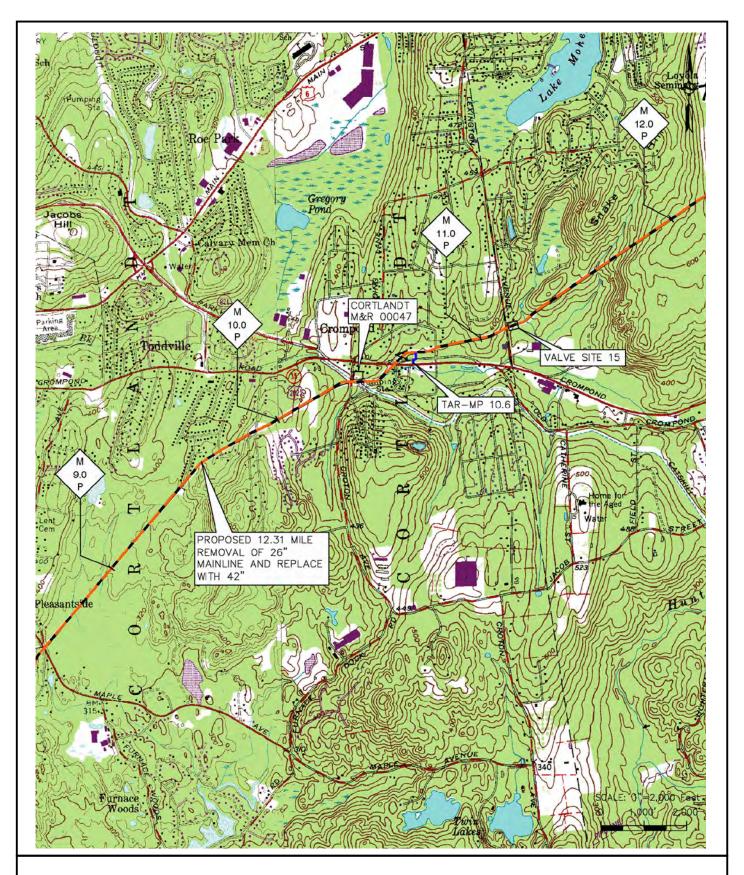
Facility Location Maps
Stony Point to Yorktown Take-up and Relay

Page 2 of 5



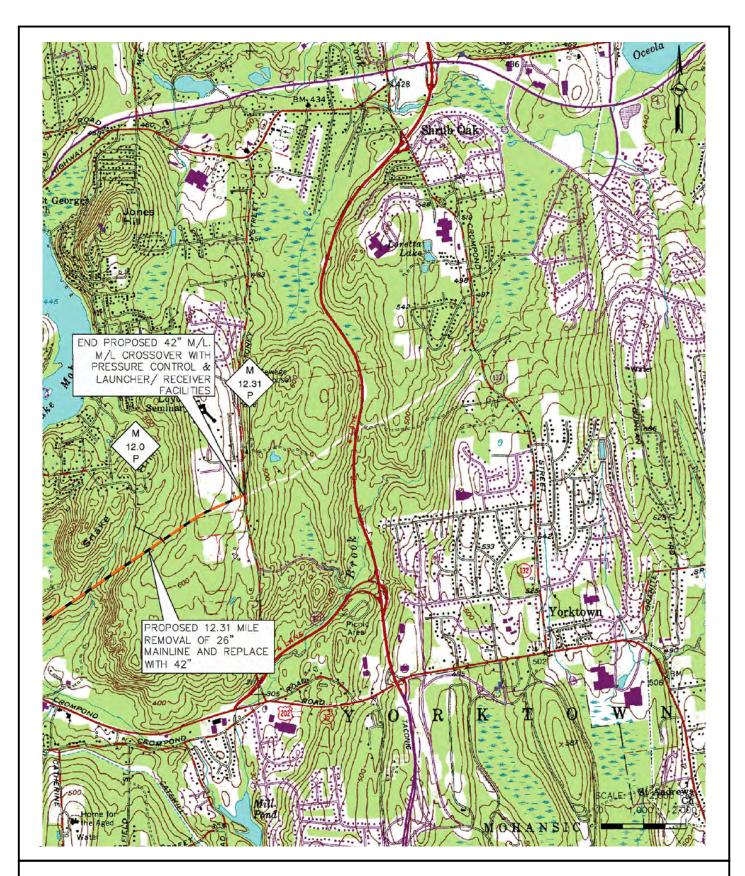
Facility Location Maps
Stony Point to Yorktown Take-up and Relay

Page 3 of 5



Facility Location Maps
Stony Point to Yorktown Take-up and Relay

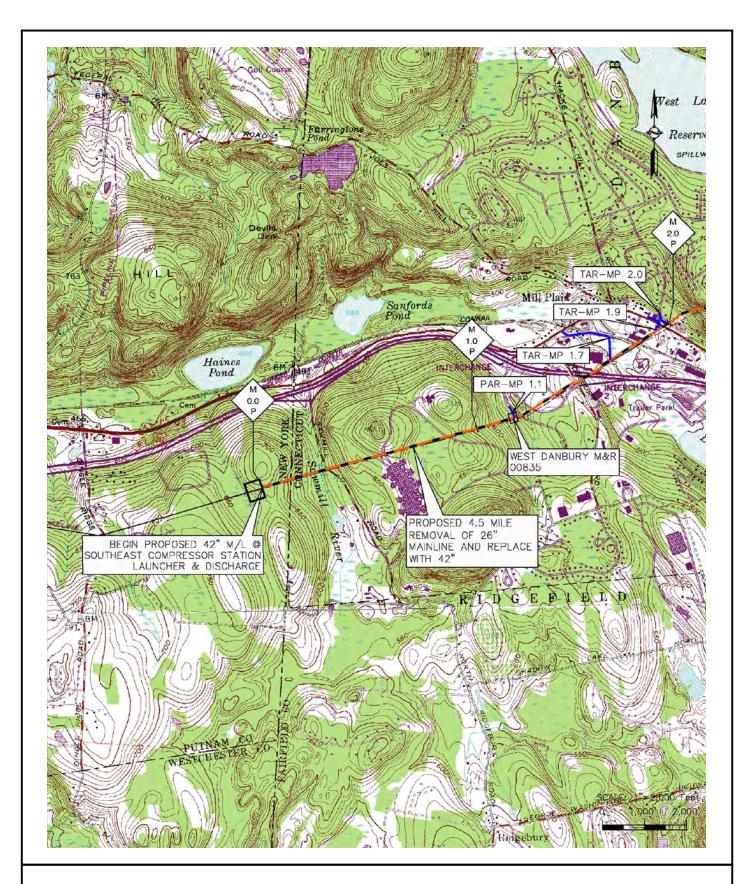
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Facility Location Maps
Stony Point to Yorktown Take-up and Relay

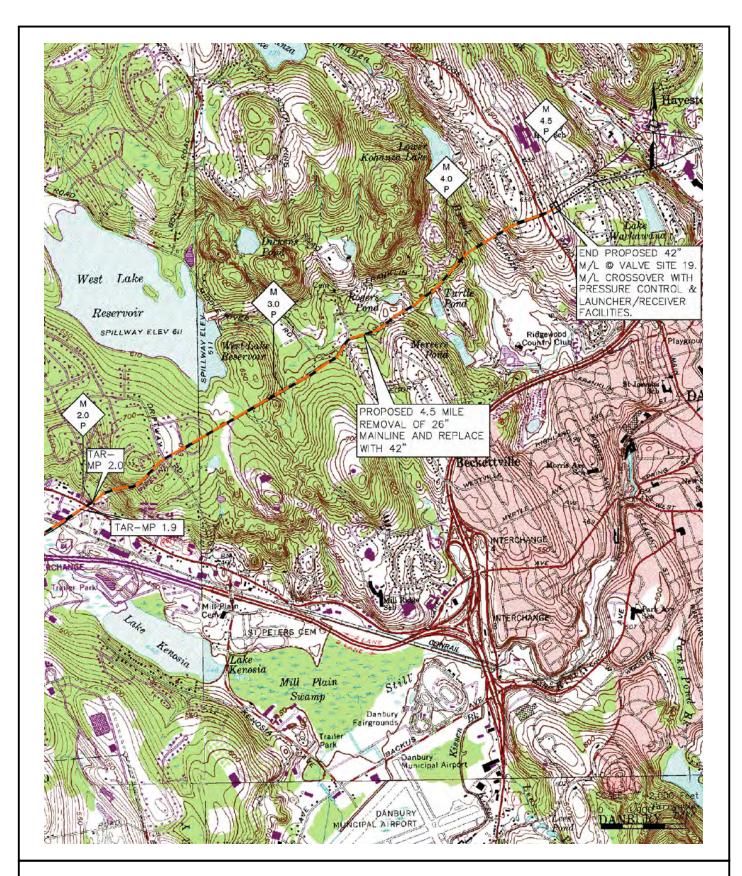
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Southeast to MLV 19 Take-up and Relay



Facility Location Maps
Southeast to MLV 19 Take-up and Relay

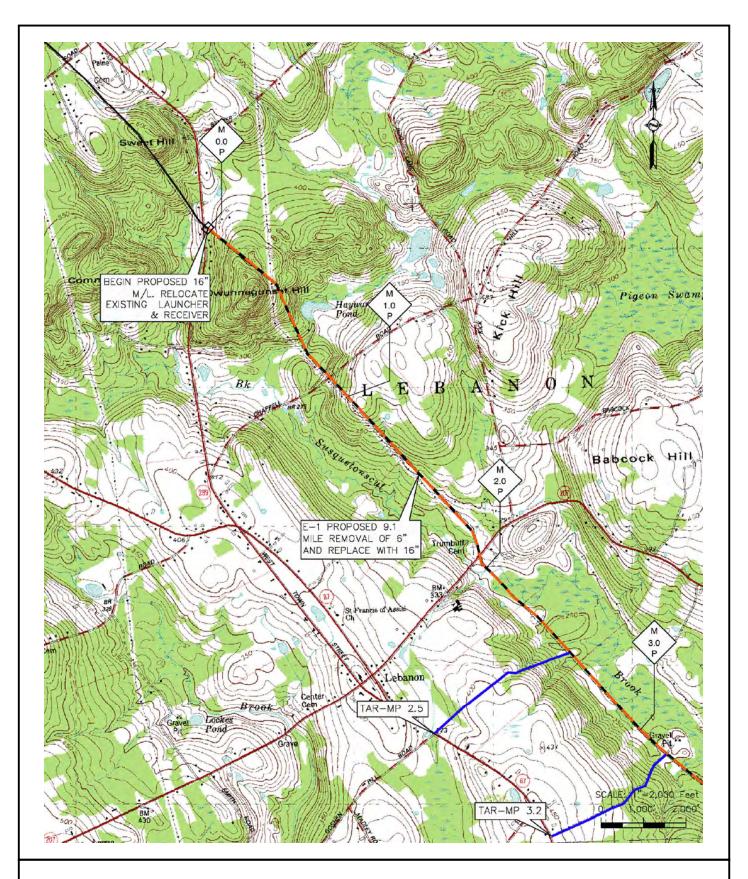
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Facility Location Maps
Southeast to MLV 19 Take-up and Relay

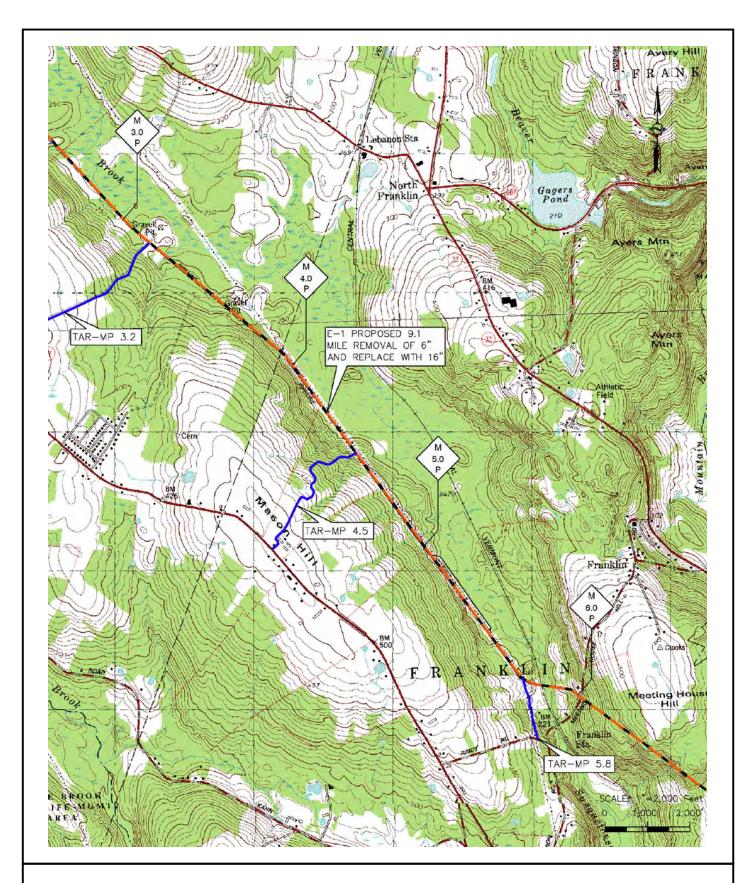
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E-1 System Lateral Take-up and Relay



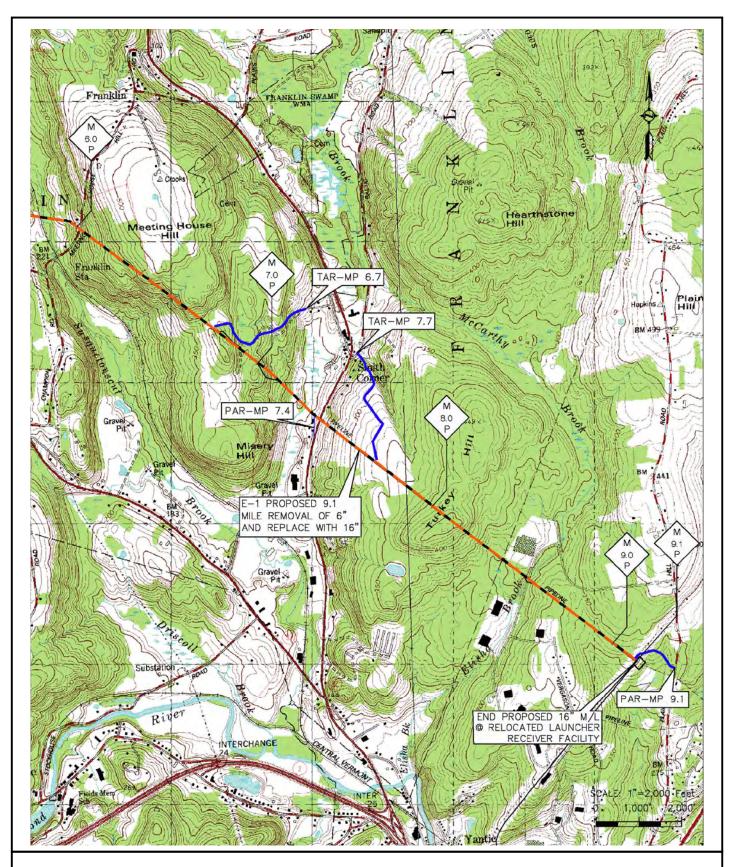
Facility Location Maps
E-1 System Lateral Take-up and Relay

Page 1 of 3



Facility Location Maps E-1 System Lateral Take-up and Relay

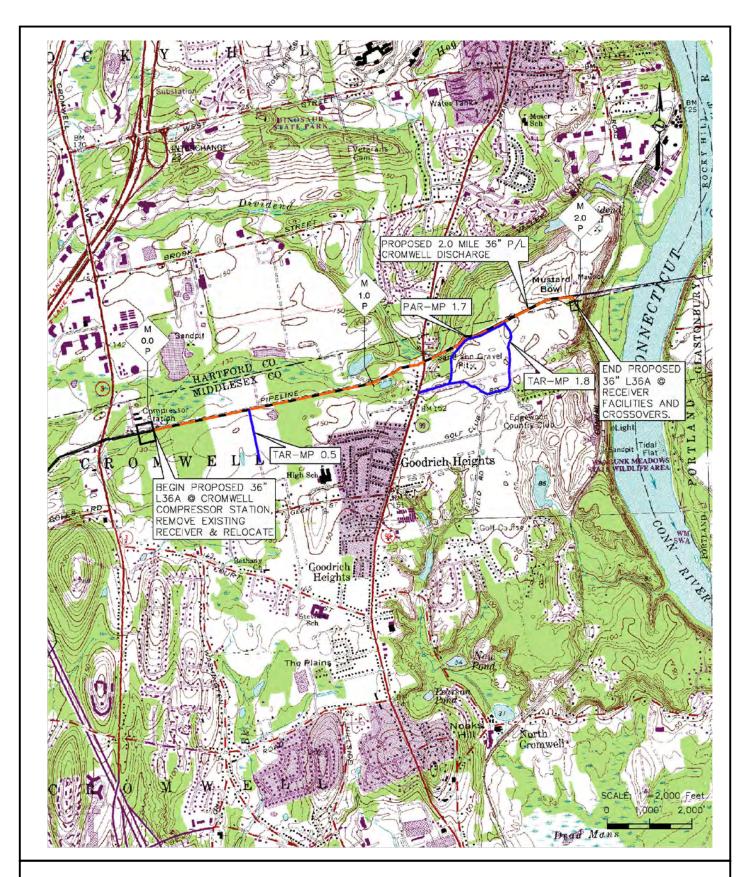
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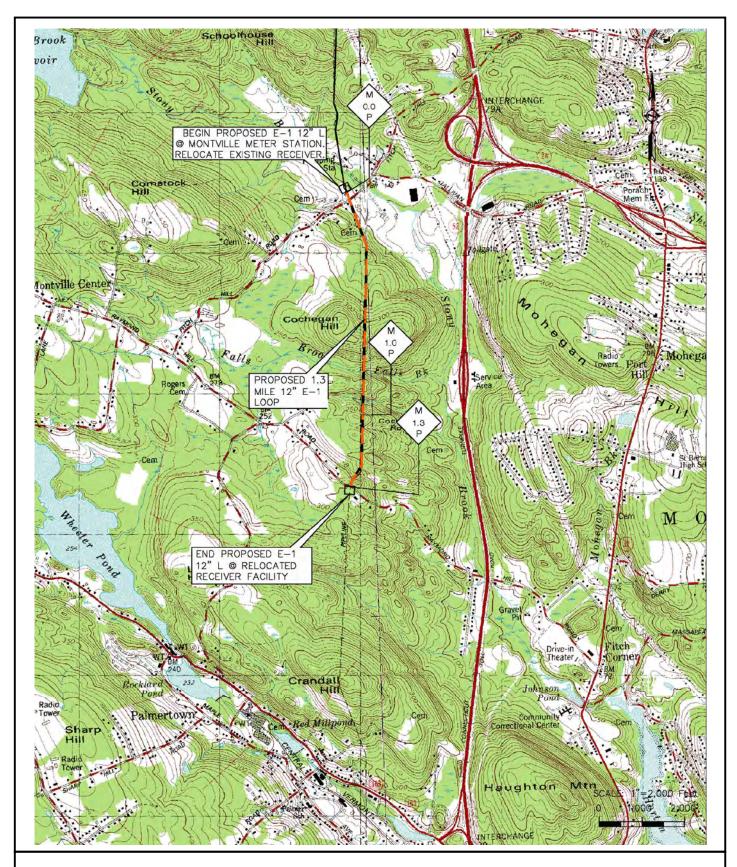
Facility Location Maps
E-1 System Lateral Take-up and Relay

Page 3 of 3

**Line-36A Loop Extension** 

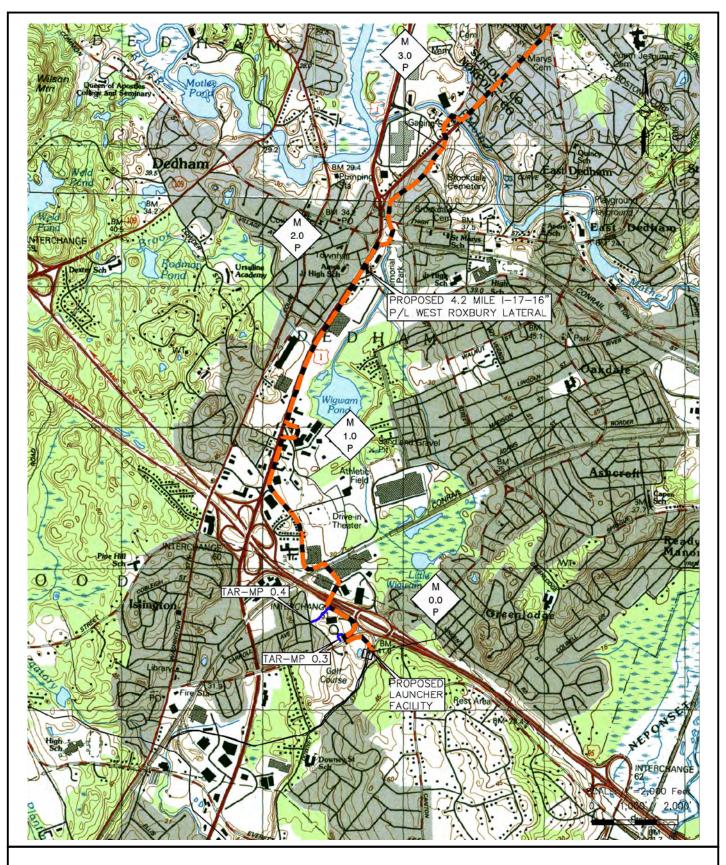


Facility Location Maps Line-36-A Loop Extension **E-1 System Lateral Loop Extension** 



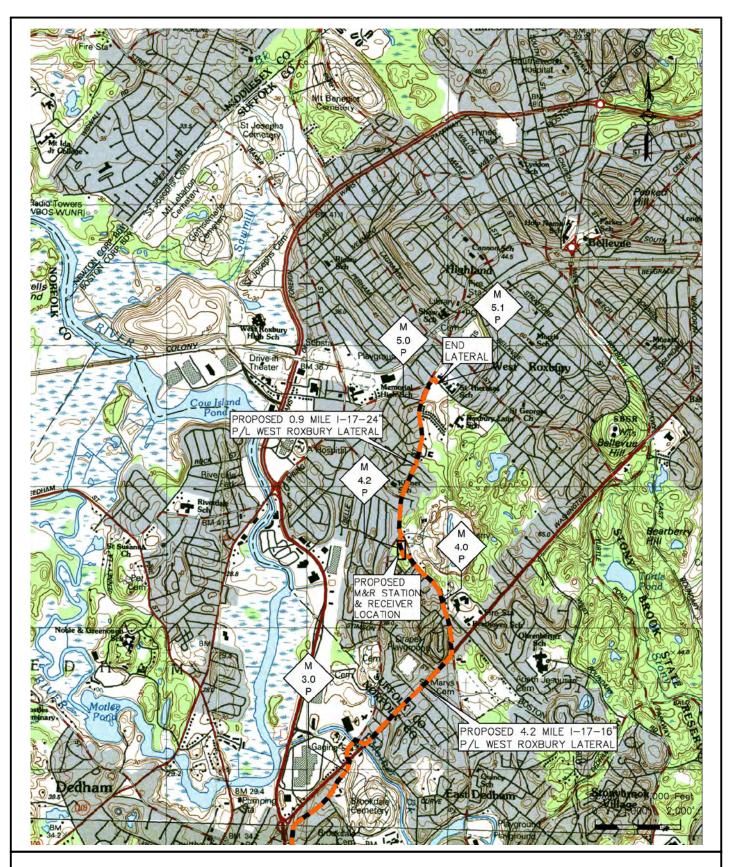
Facility Location Maps
E-1 System Lateral Loop Extension

**West Roxbury Lateral** 



Facility Location Maps West Roxbury Lateral

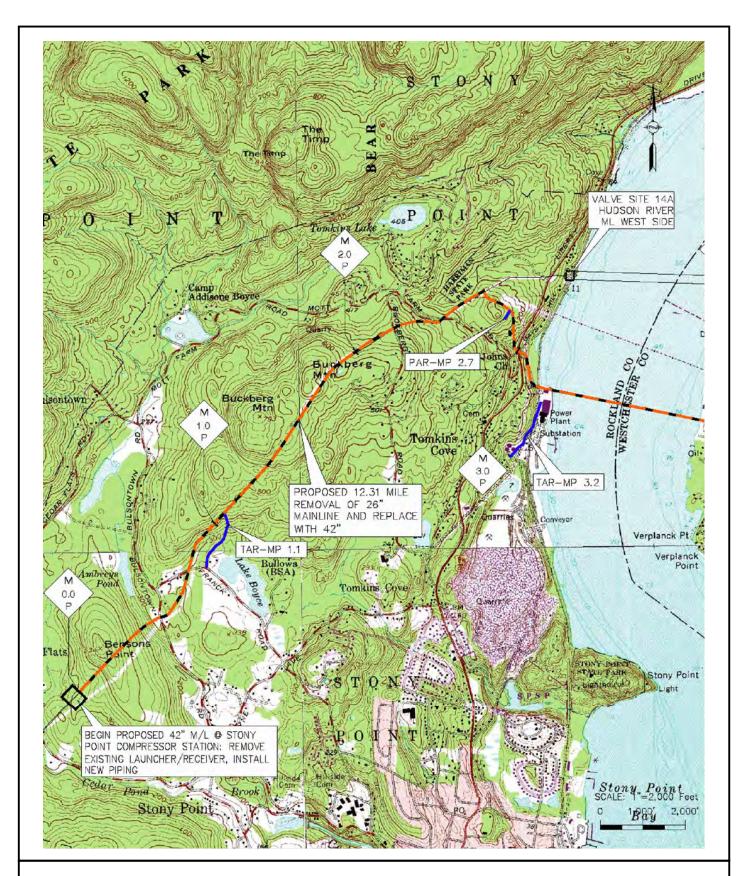
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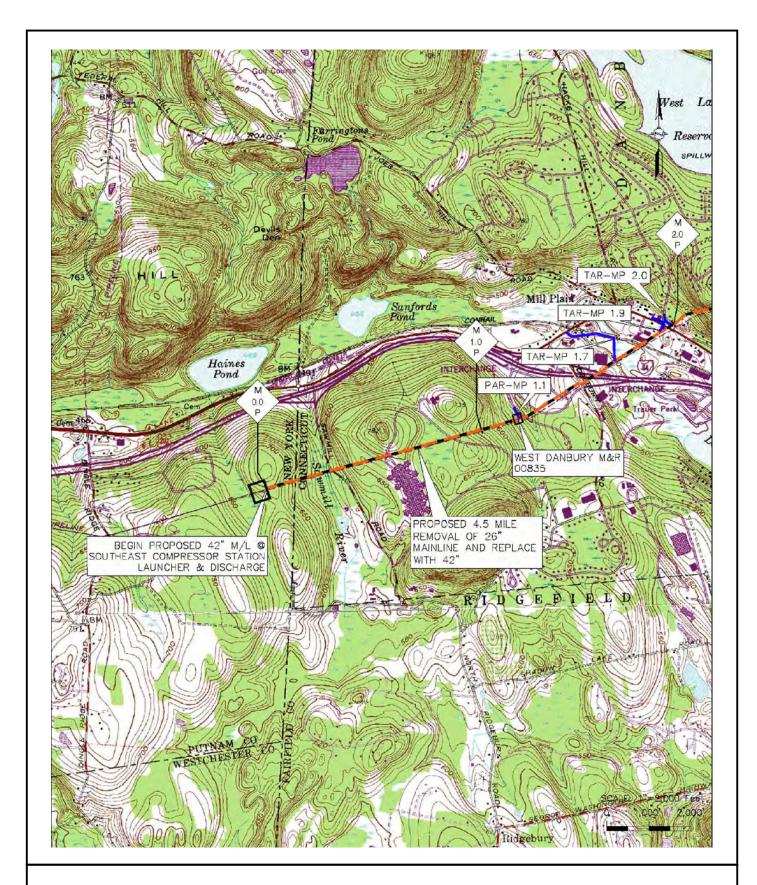
Facility Location Maps West Roxbury Lateral

Page 2 of 2

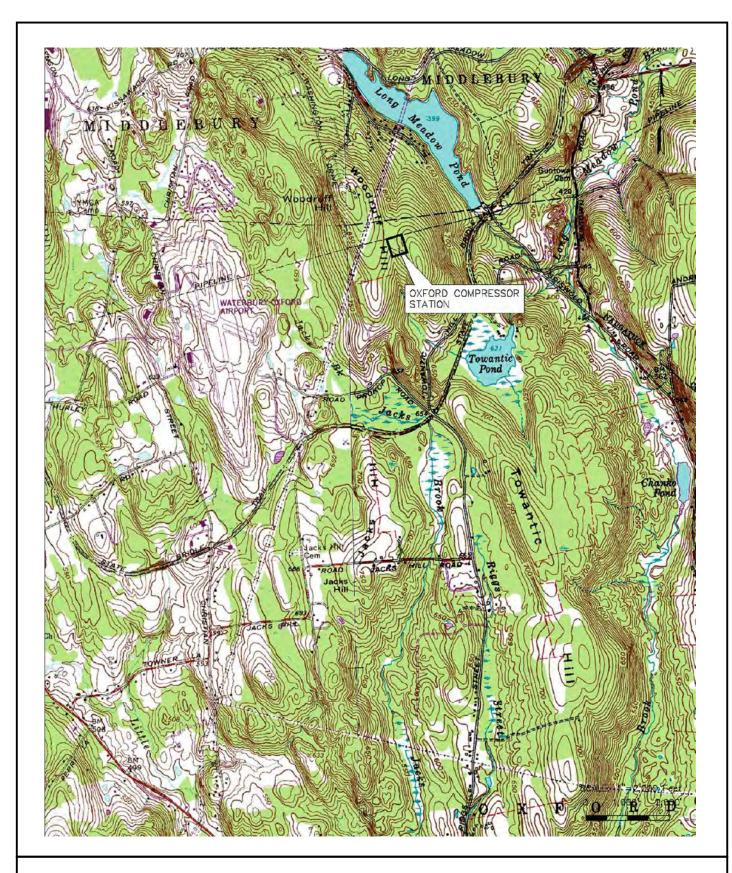
**Existing Compressor Stations** 



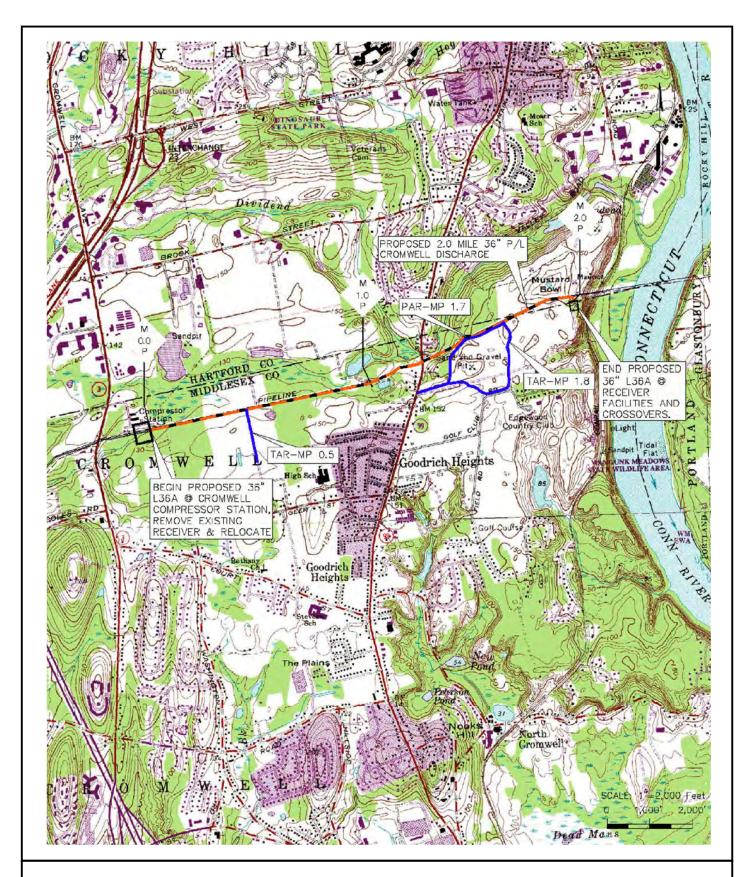
Facility Location Maps Stony Point Compressor Station



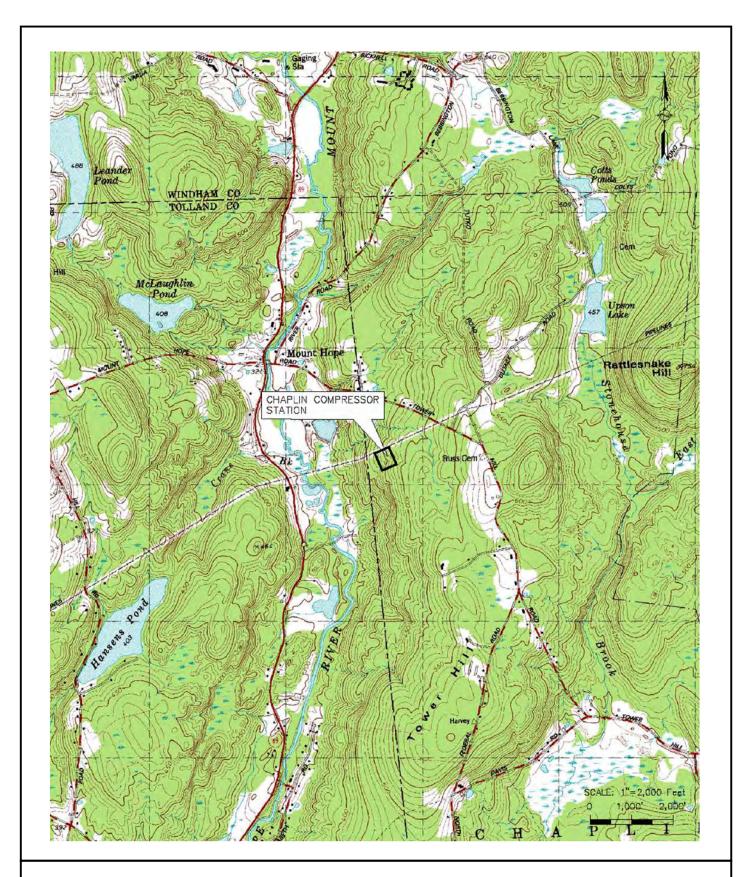
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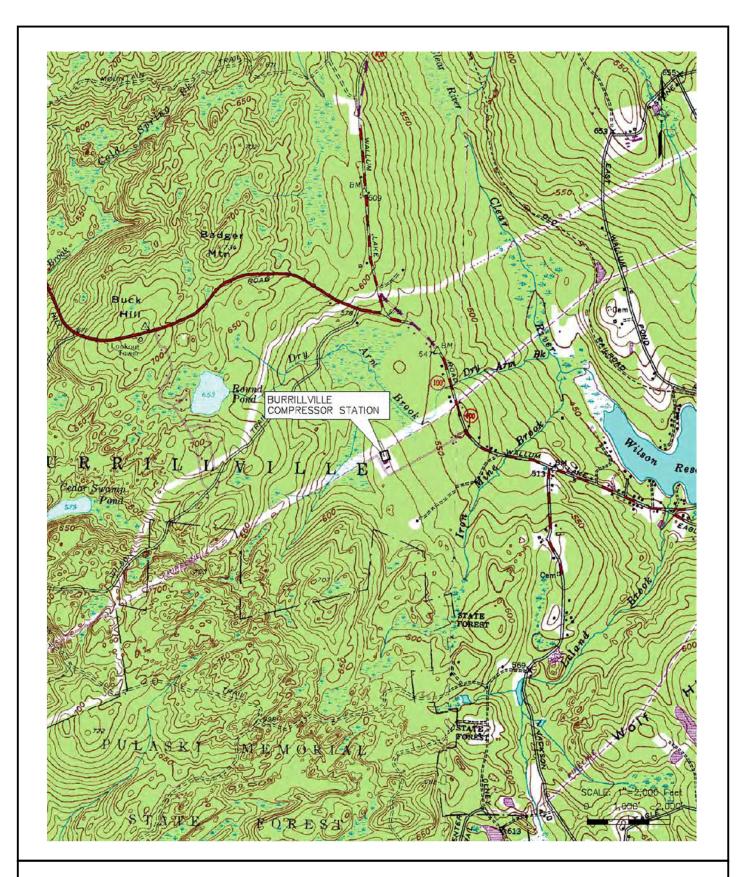
Appendix B
AIM Project
Facility Location Maps
Oxford Compressor Station



Facility Location Maps Cromwell Compressor Station



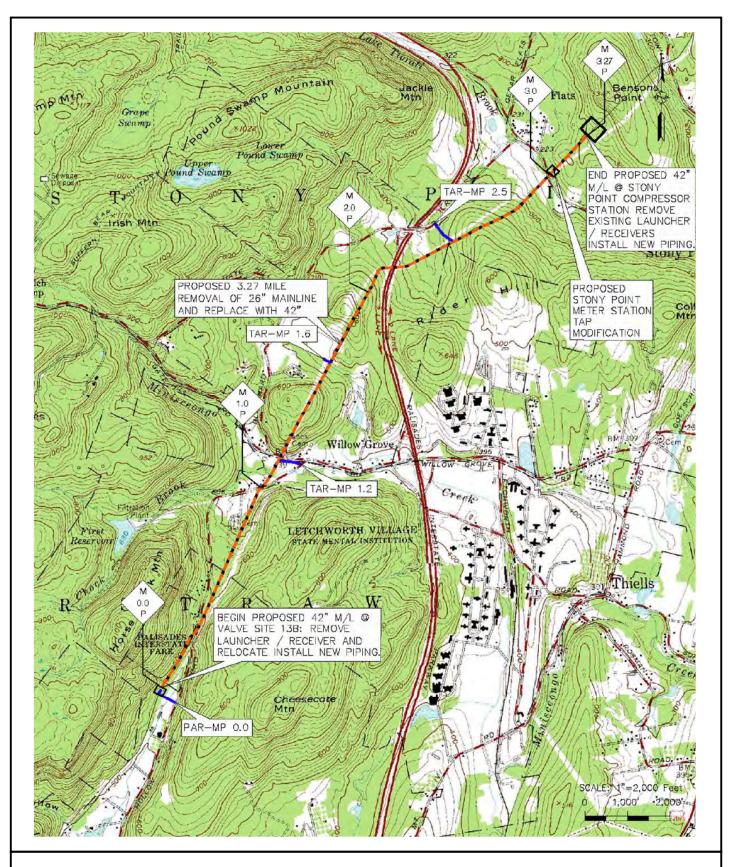
Appendix B
AIM Project
Facility Location Maps
Chaplin Compressor Station



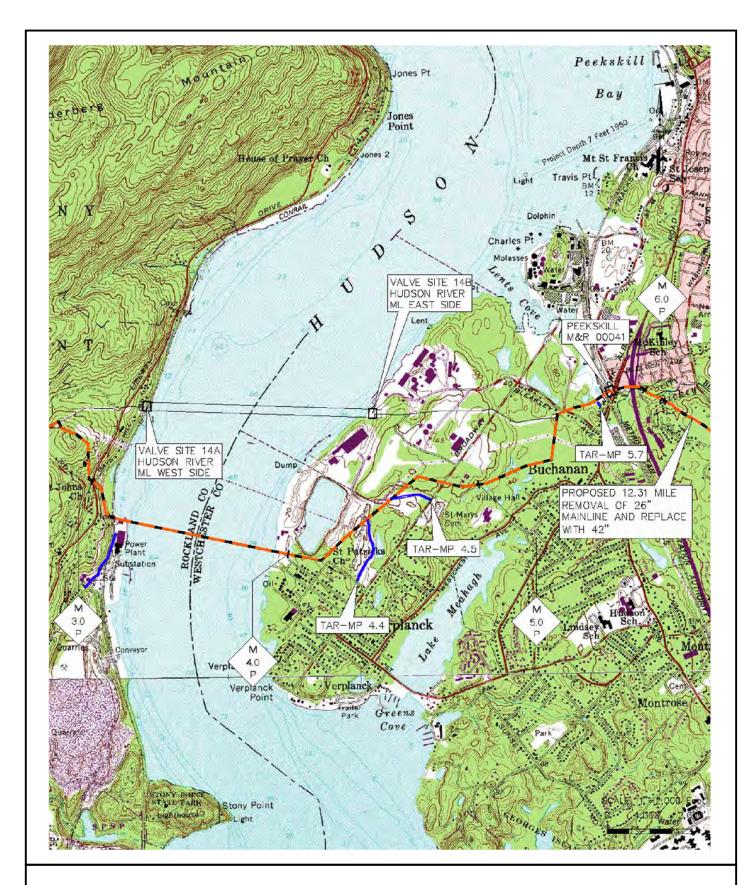
## Appendix B AIM Project Facility Location Maps

Facility Location Maps
Burrillville Compressor Station

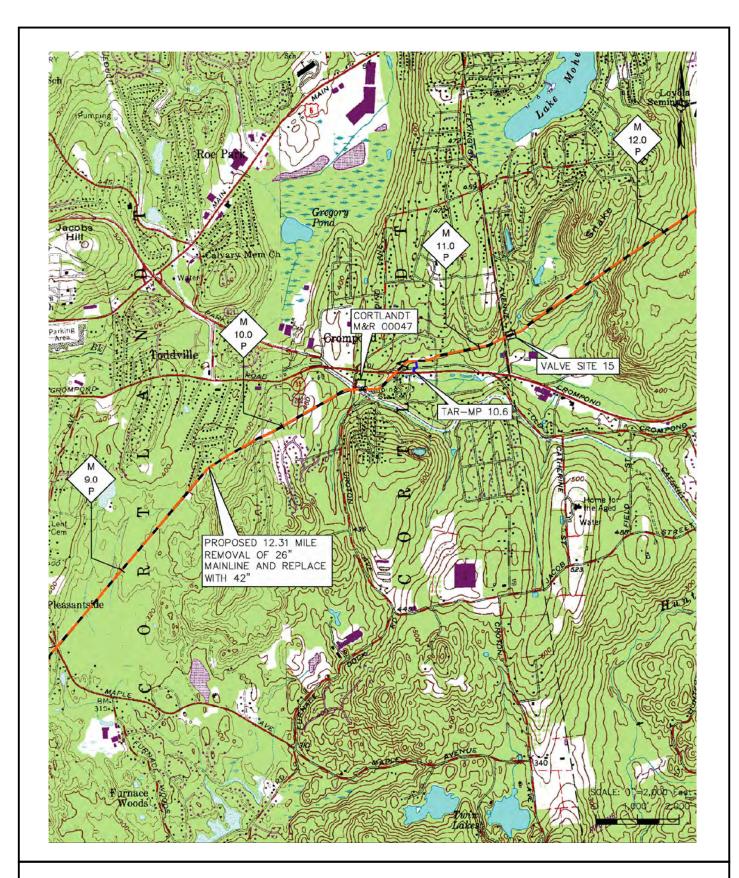
**New York M&R Stations** 



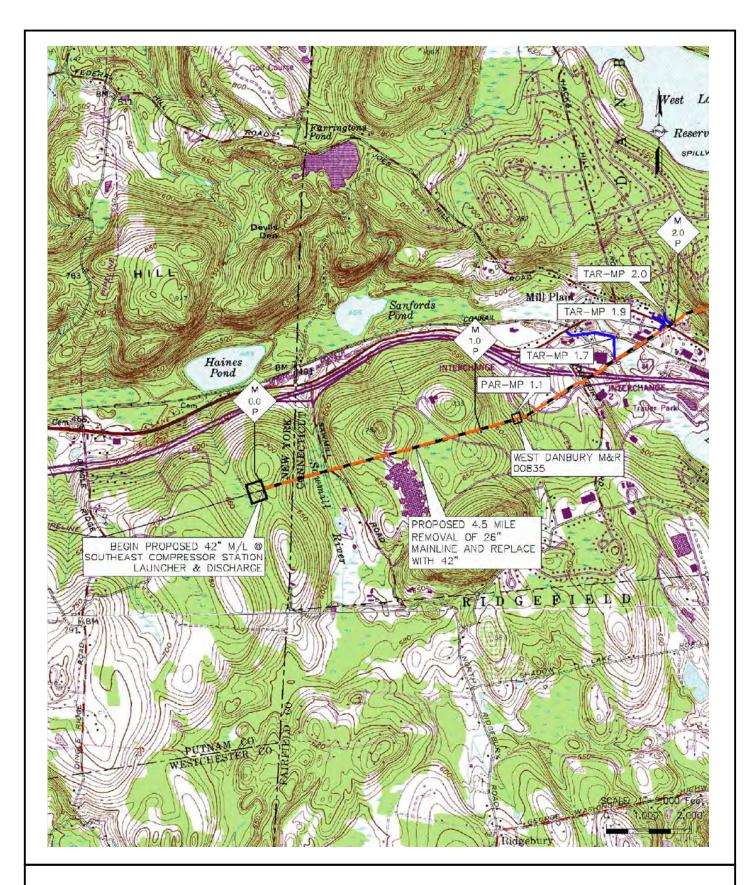
Facility Location Maps Stony Point M&R Station



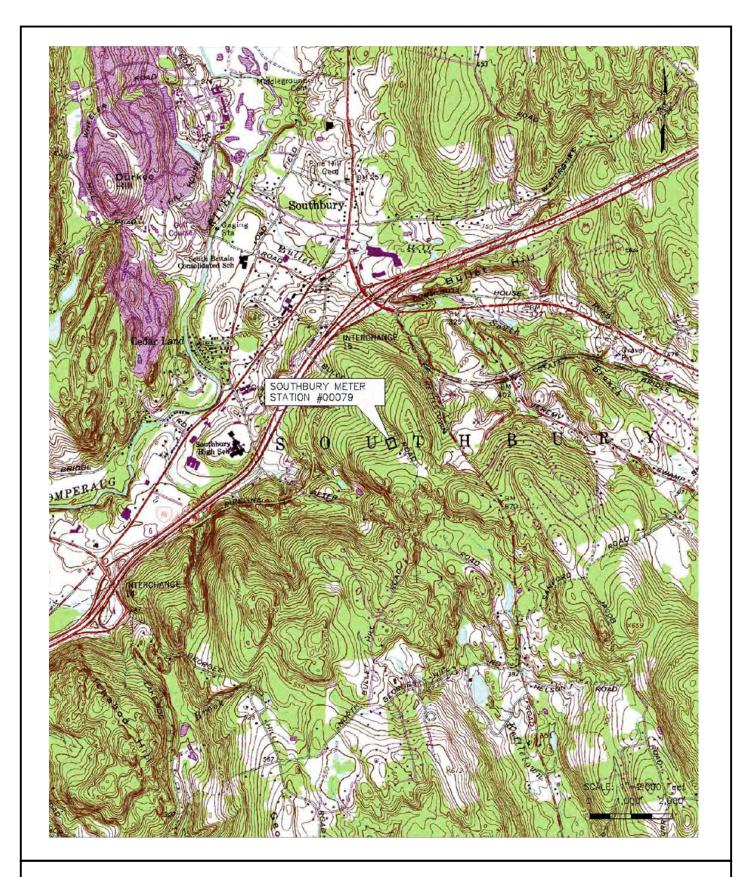
Facility Location Maps Peekskill M&R Station



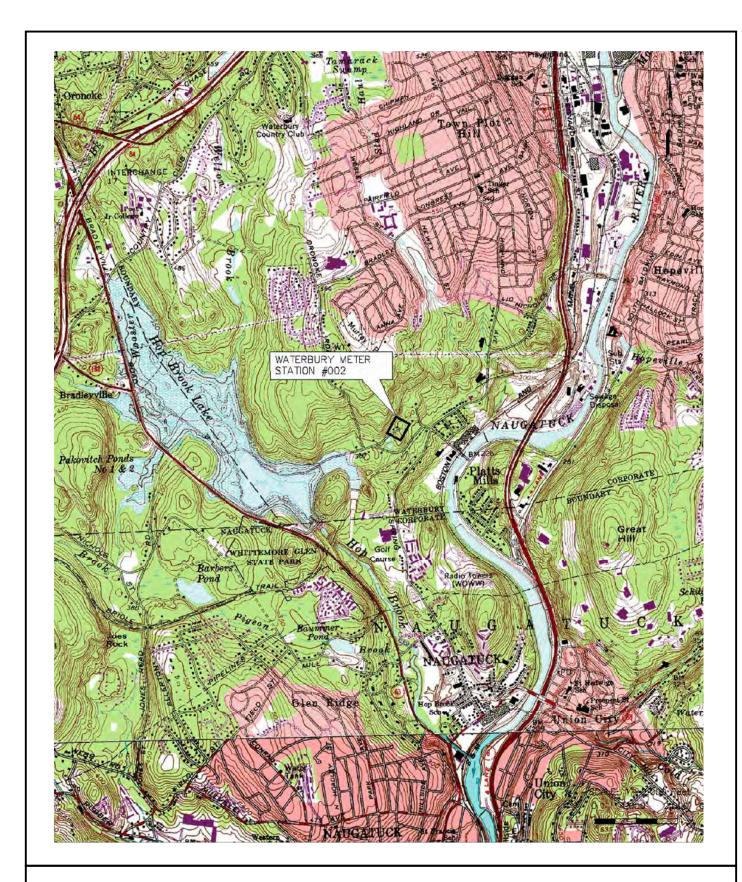
Facility Location Maps Cortlandt M&R Station **Connecticut M&R Stations** 



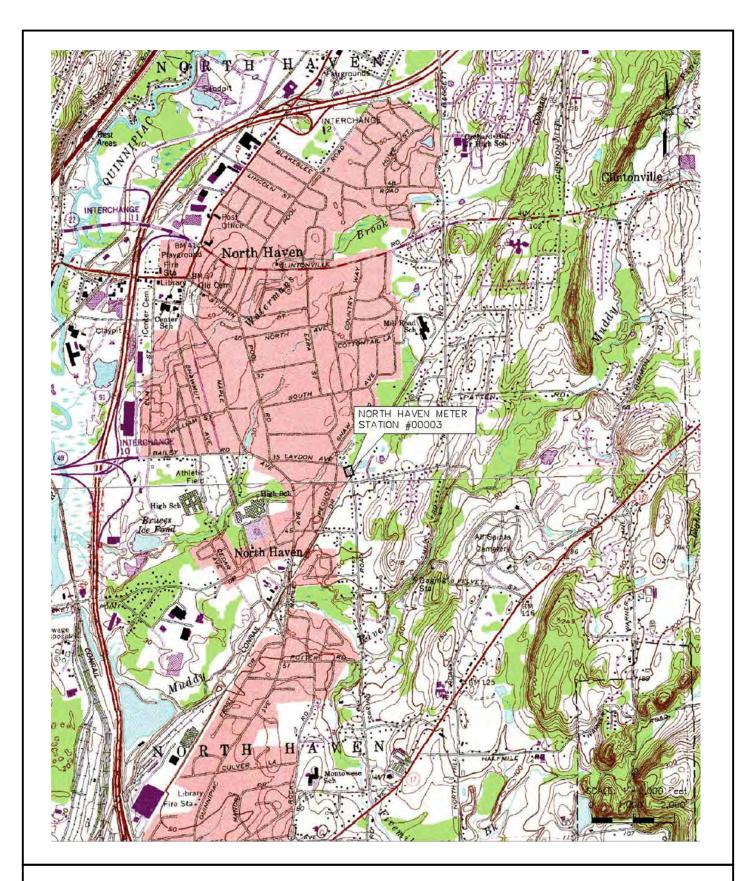
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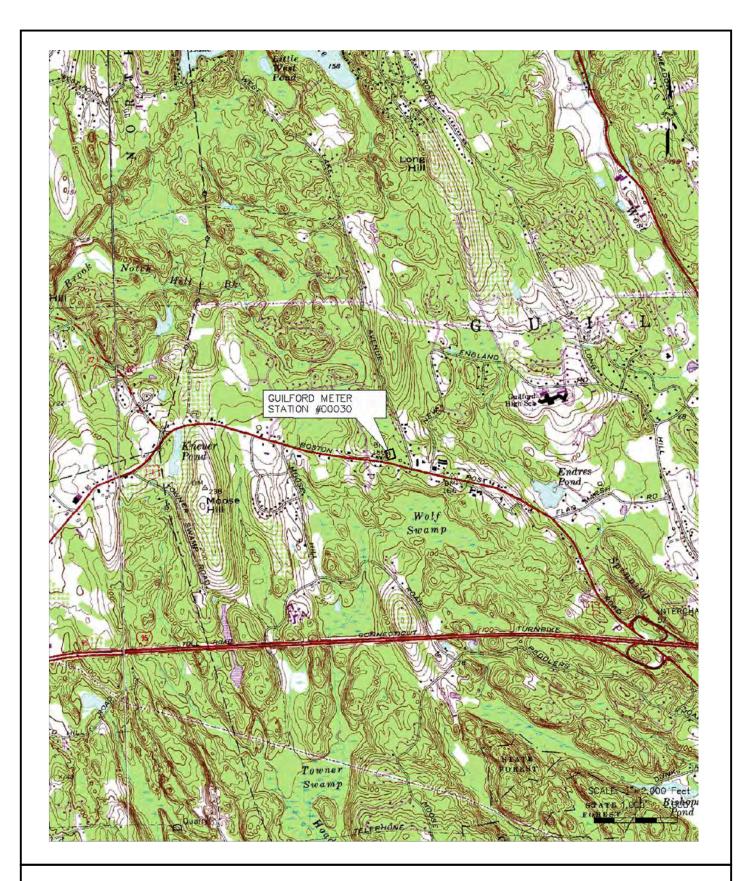
Appendix B
AIM Project
Facility Location Maps
Southbury M&R Station



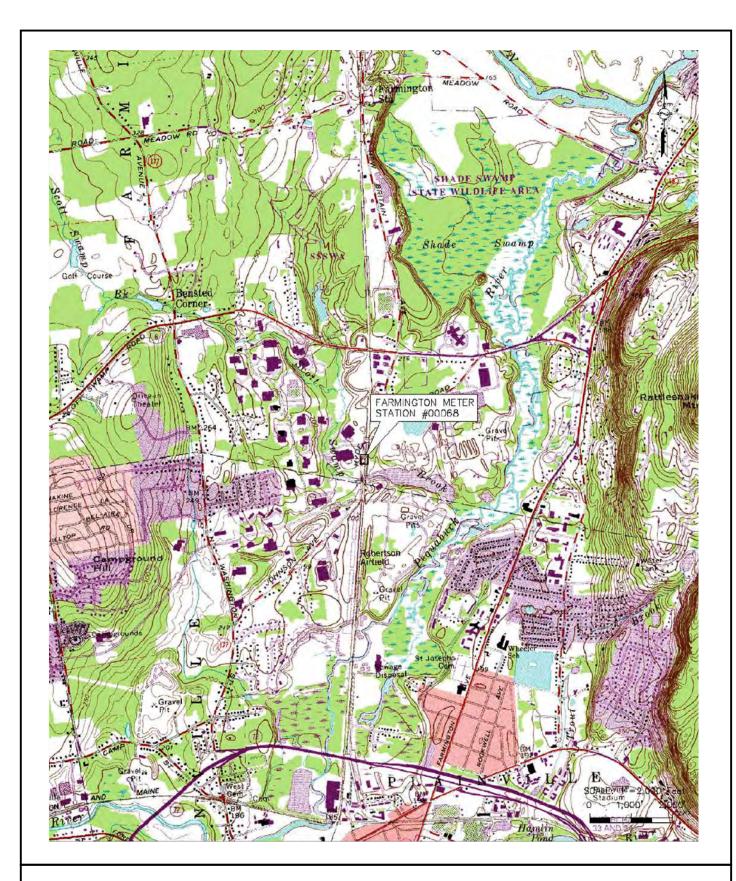
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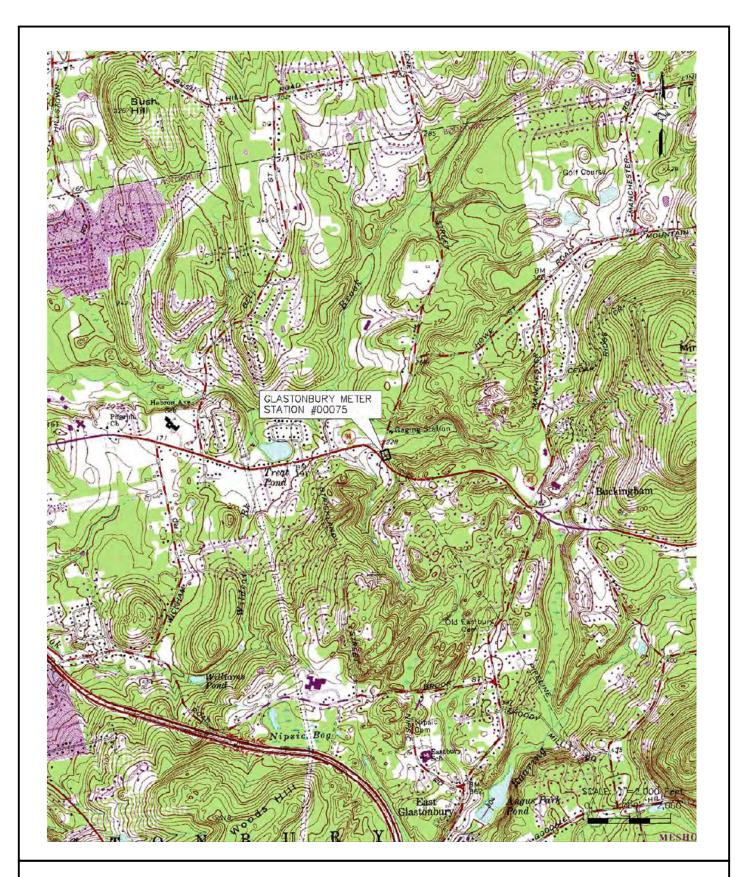
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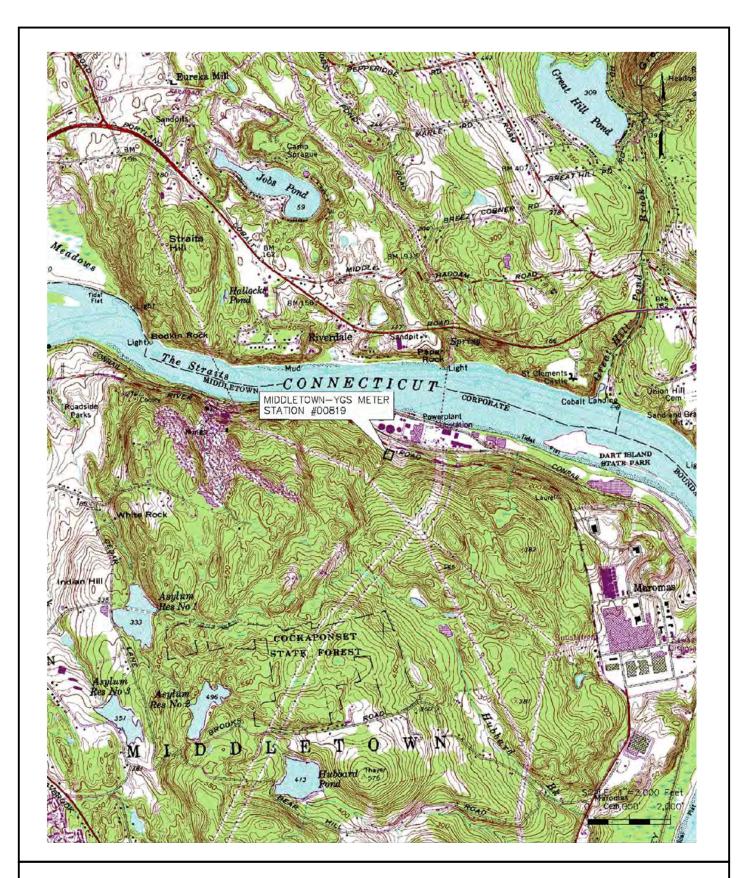
# Appendix B AIM Project Facility Location Maps Guilford M&R Station



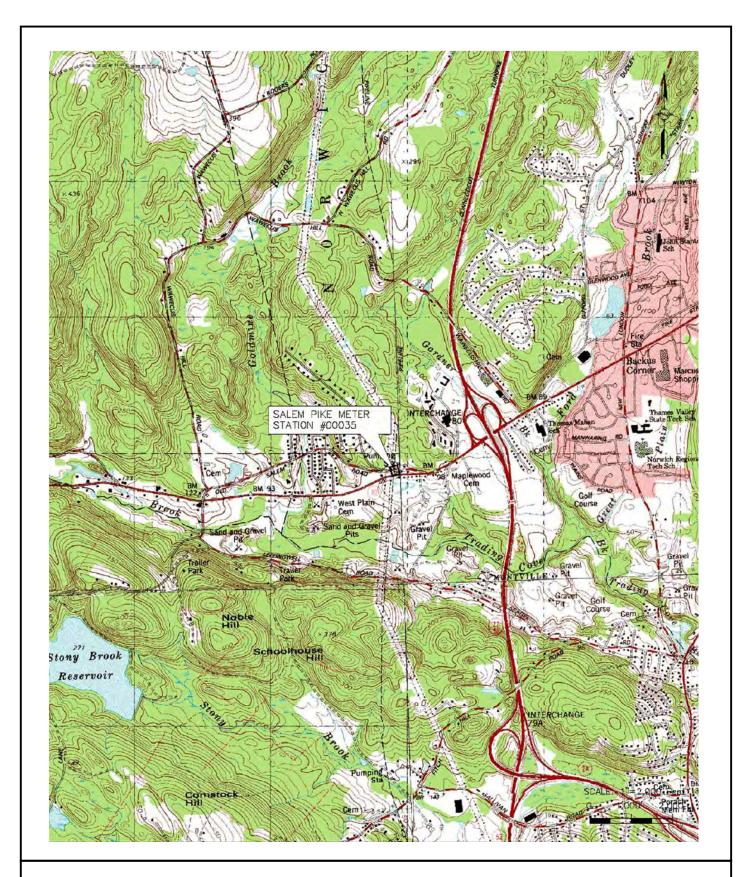
Facility Location Maps Farmington M&R Station



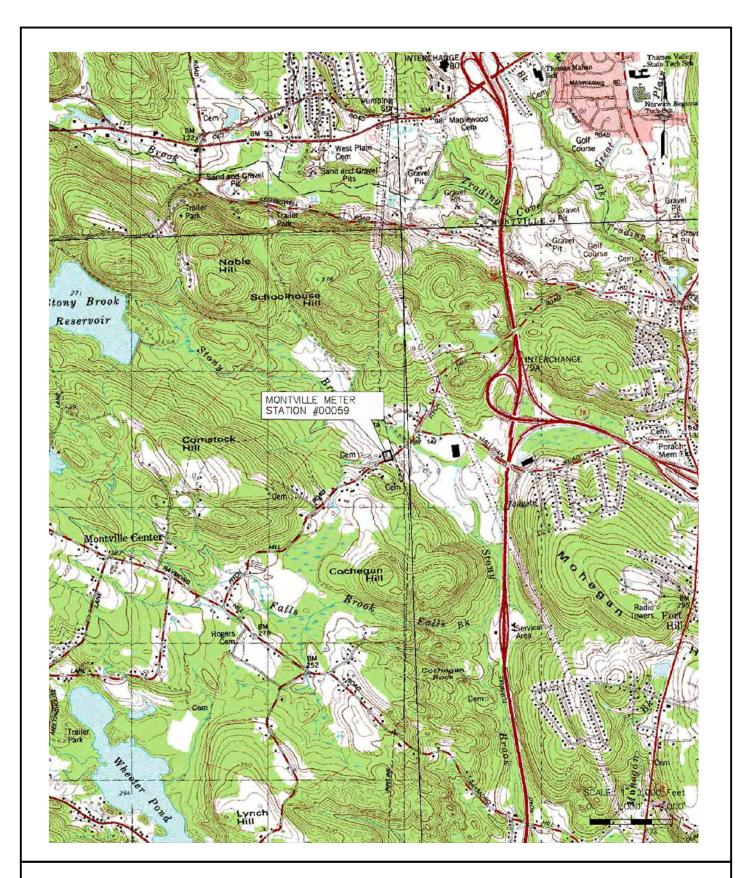
Facility Location Maps Glastonbury M&R Station



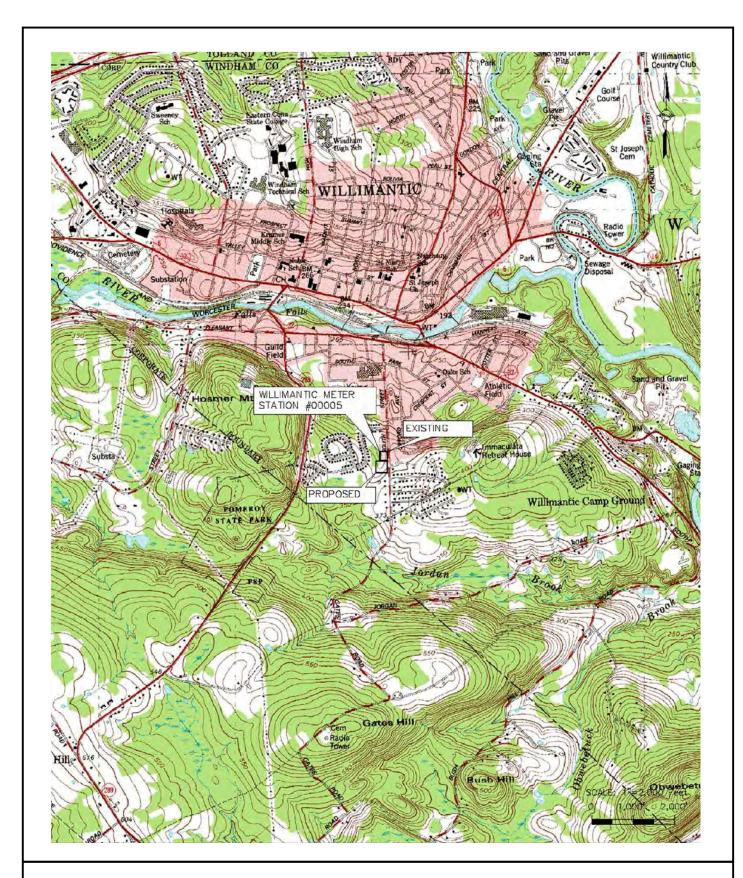
Facility Location Maps Middletown M&R Station



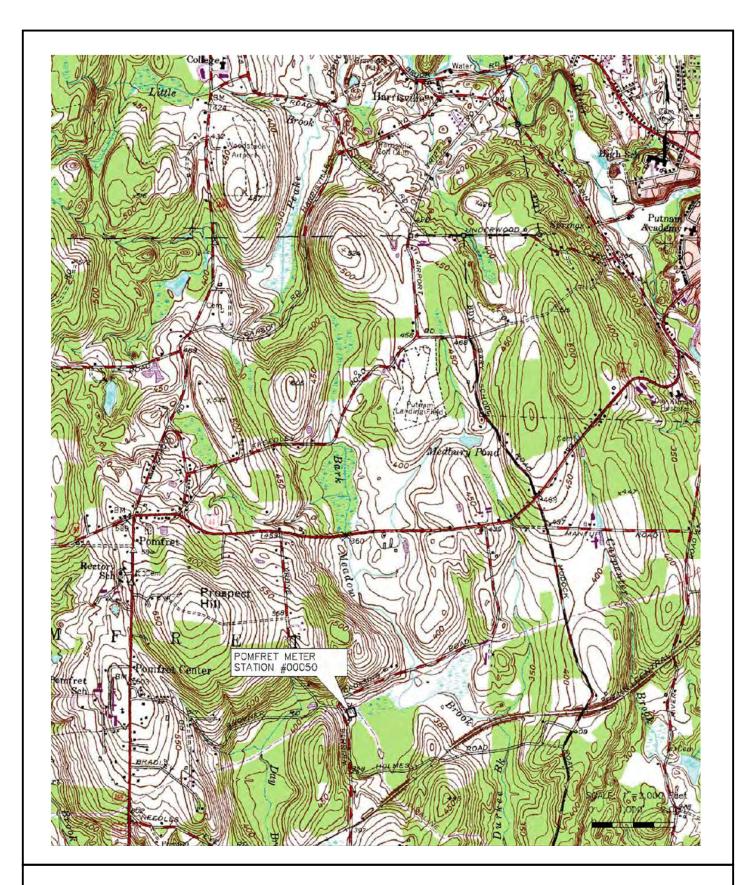
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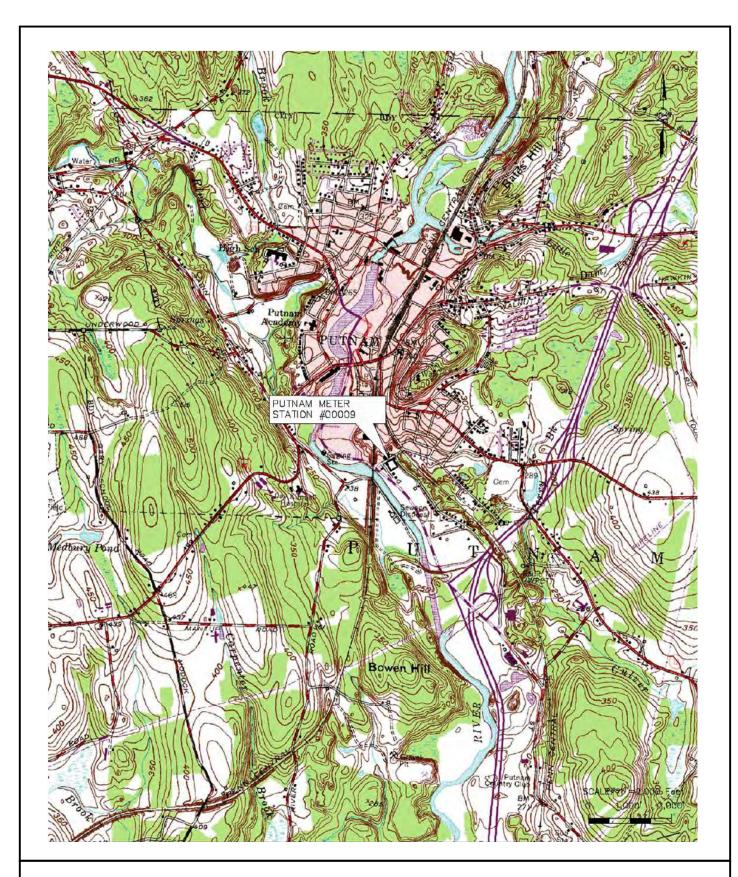
Facility Location Maps Montville M&R Station



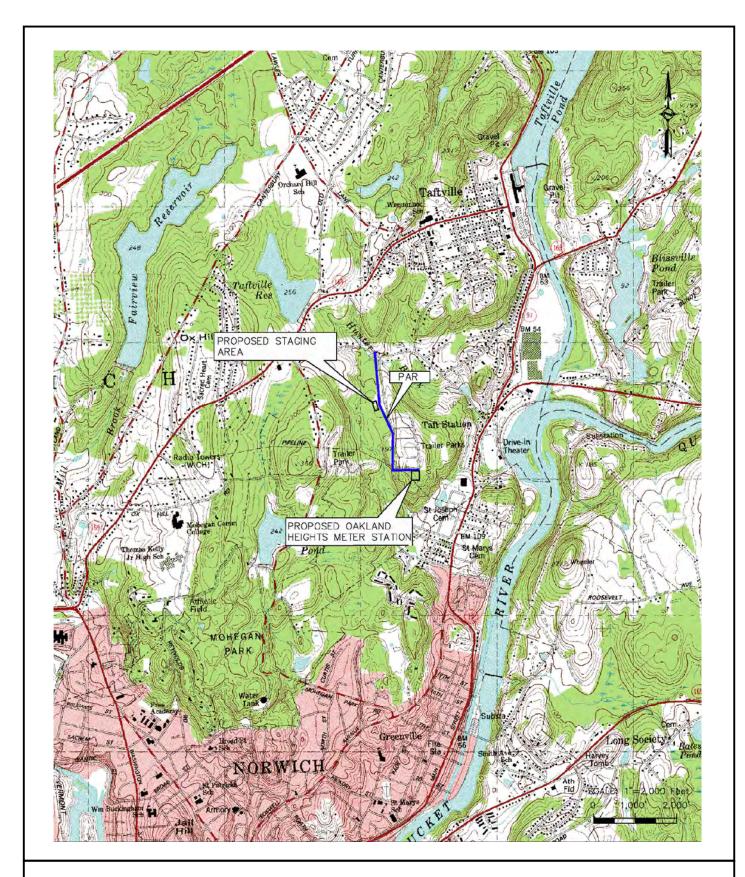
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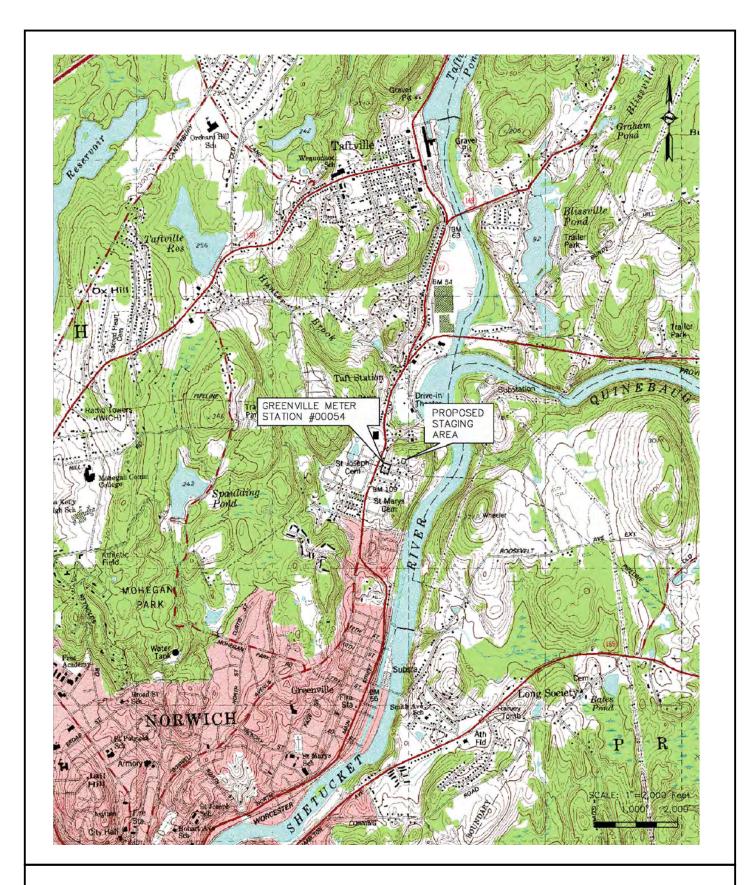
# Appendix B AIM Project Facility Location Maps Pomfret M&R Station



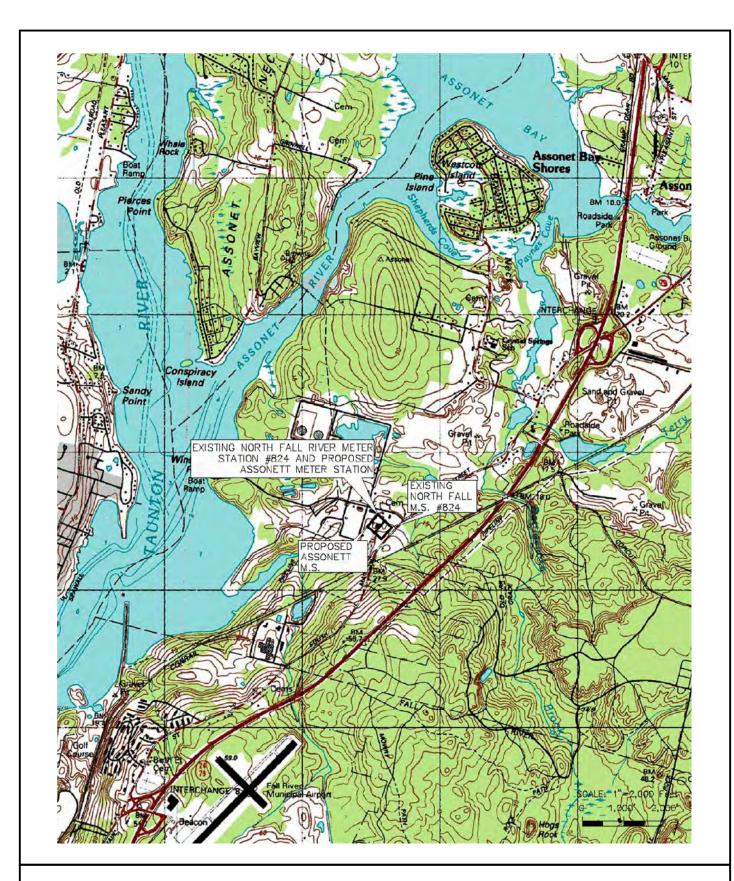
Appendix B
AIM Project
Facility Location Maps
Putnam M&R Station



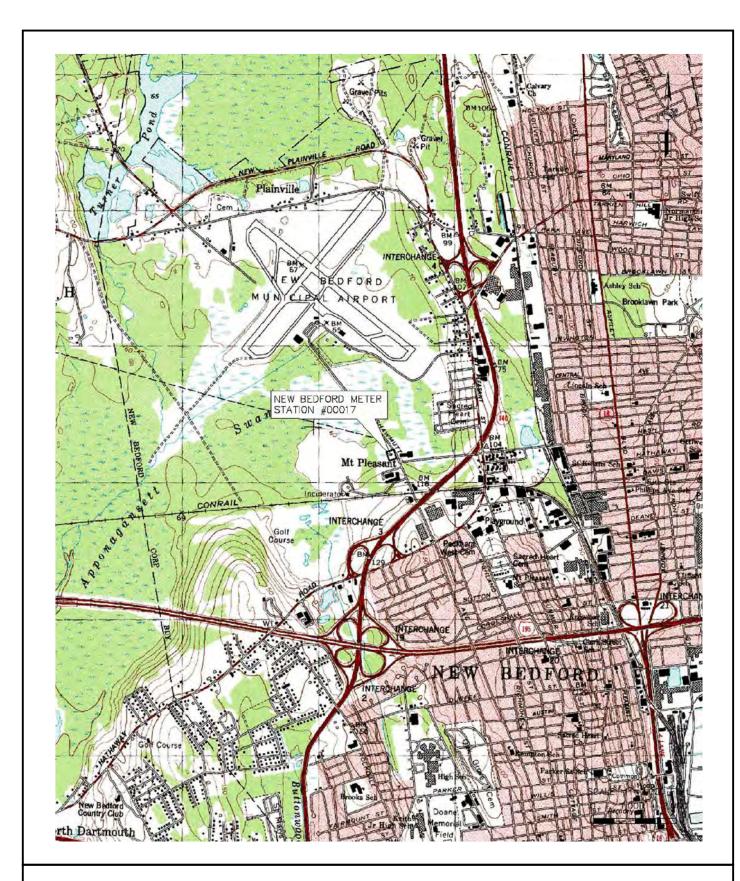
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Oakland Heights M&R Station



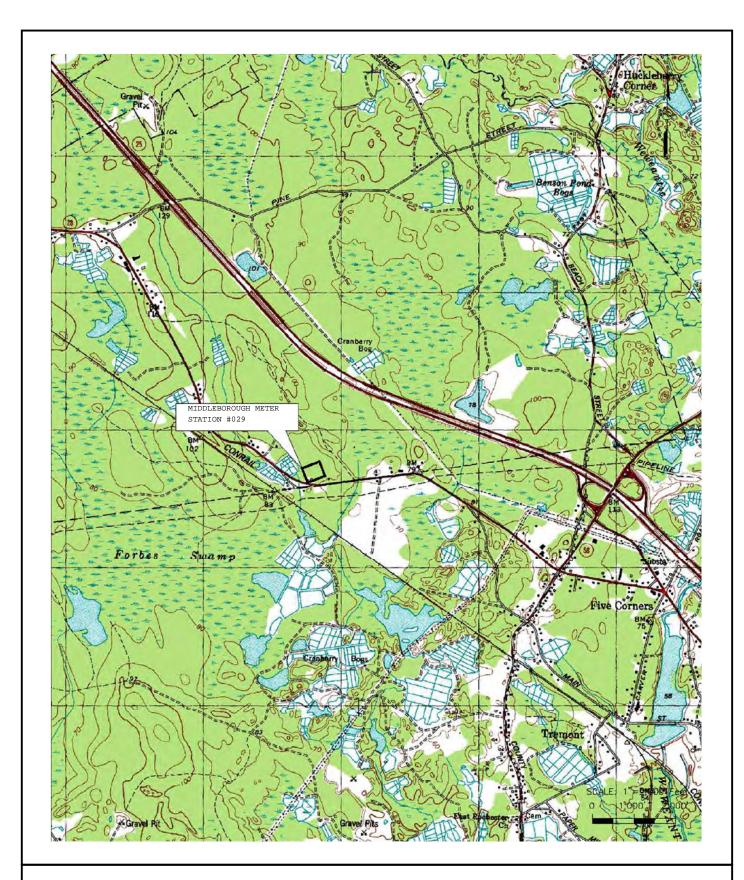
Facility Location Maps Greenville M&R Station **Massachusetts M&R Stations** 



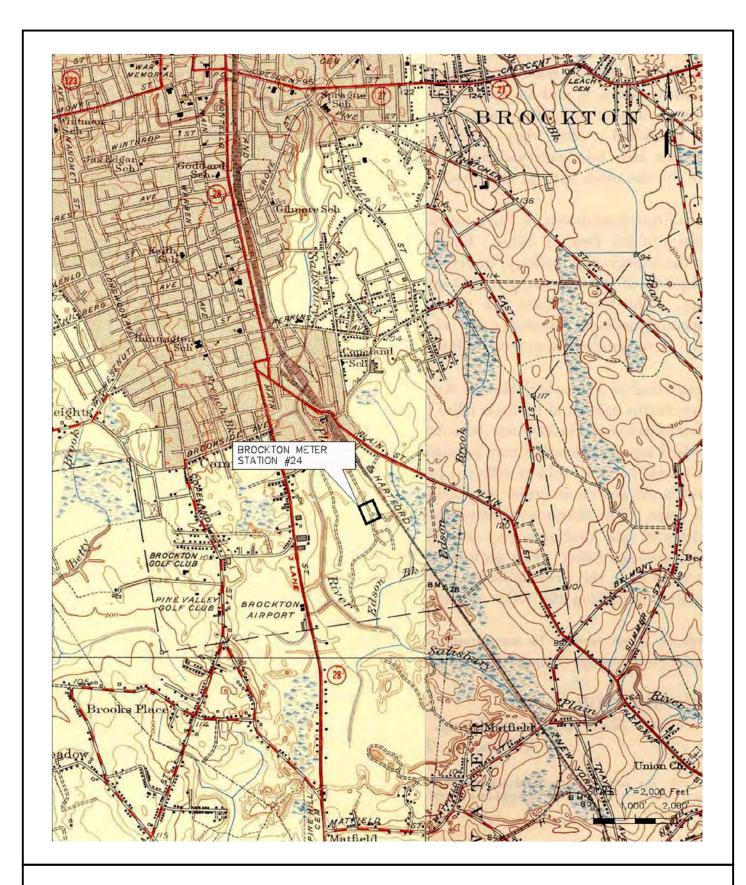
Facility Location Maps
North Fall River and Assonett M&R Stations



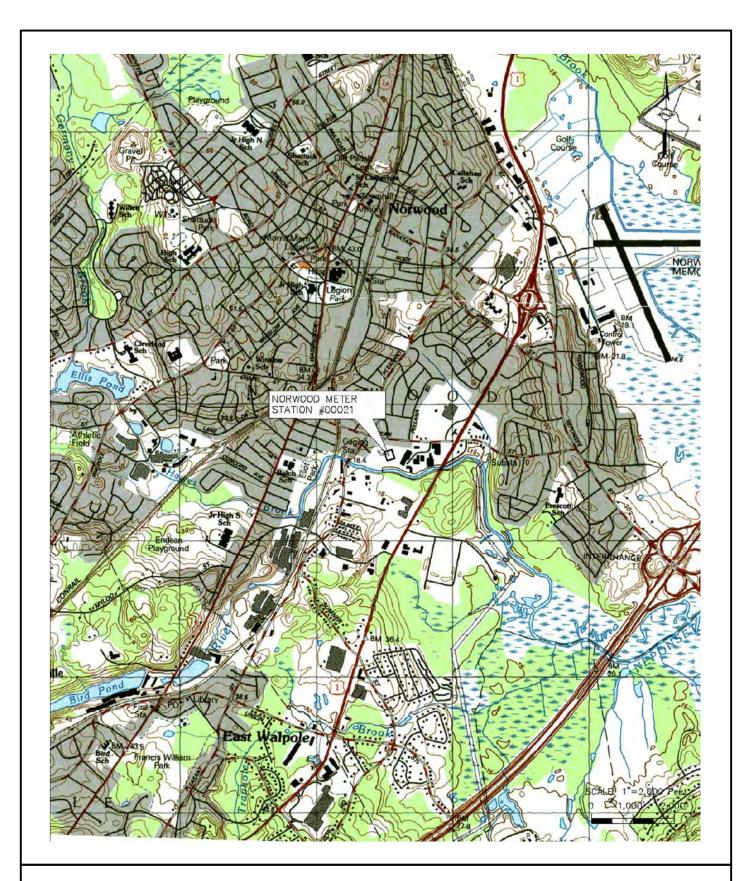
Facility Location Maps New Bedford M&R Station



Appendix B
AIM Project
Facility Location Maps
Middleborough M&R Station

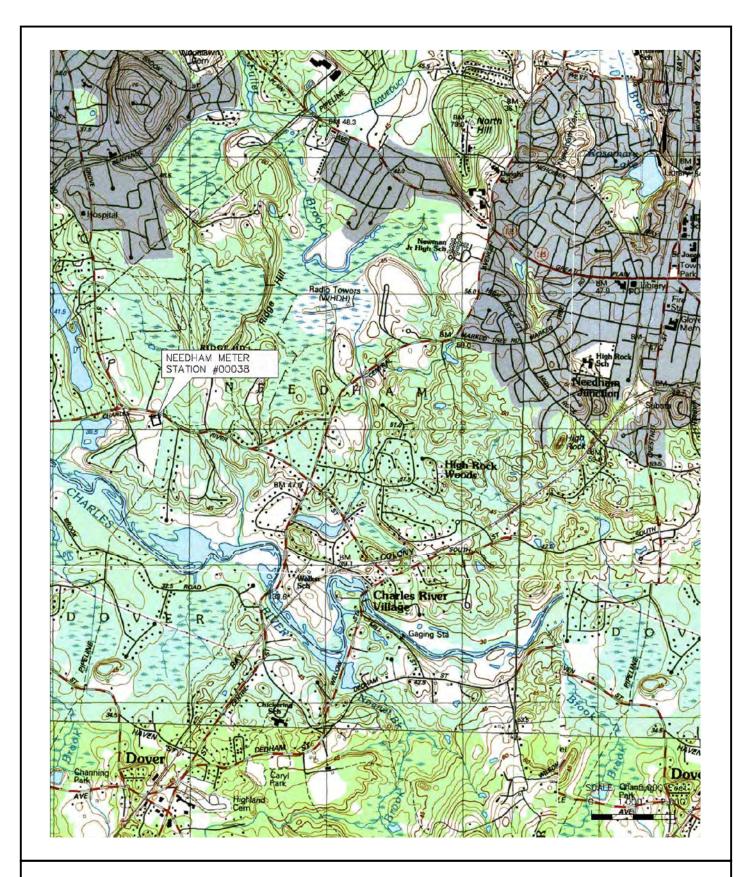


Facility Location Maps Brockton M&R Station

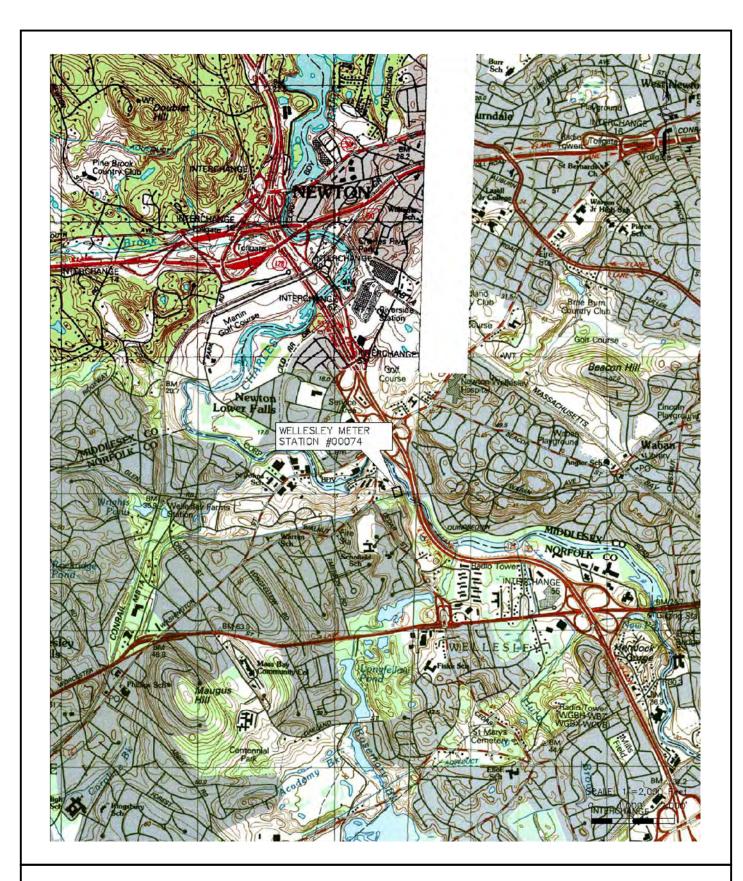


# Appendix B AIM Project Facility Location Maps

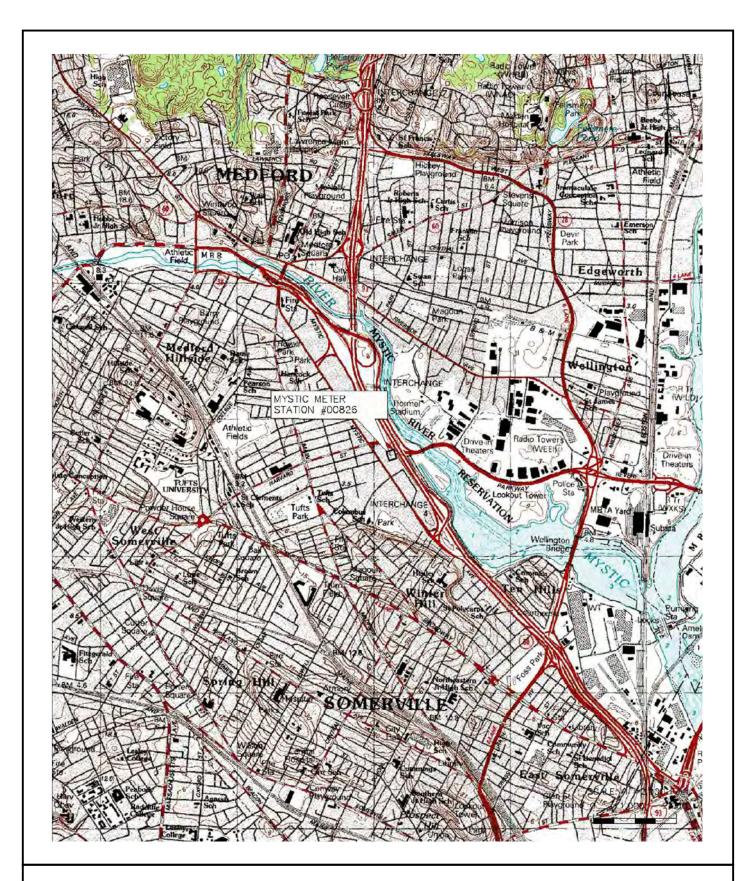
Norwood M&R Station



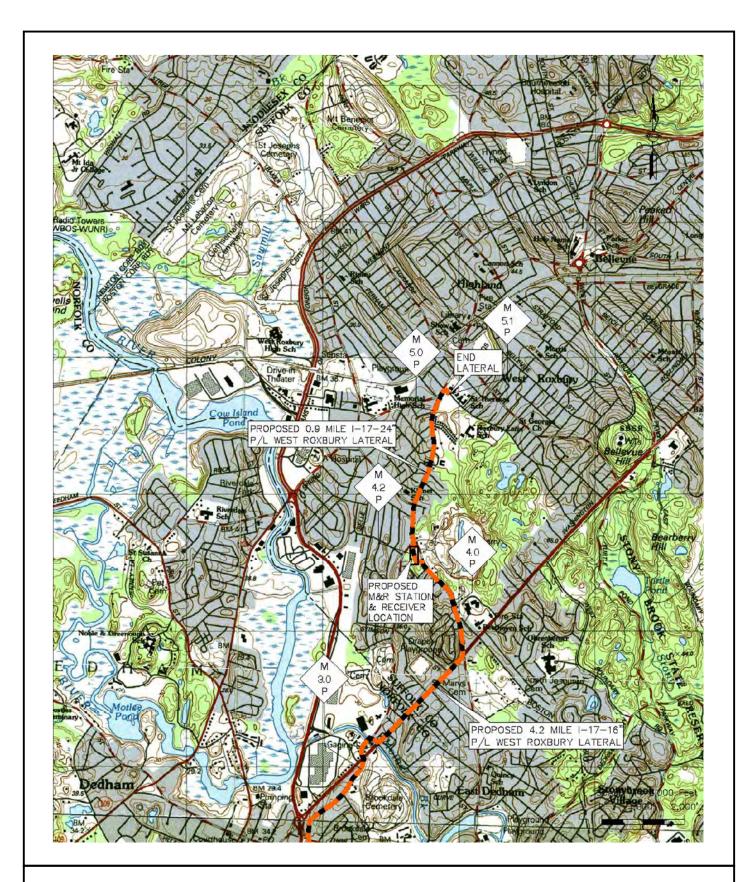
Facility Location Maps Needham M&R Station



Appendix B
AIM Project
Facility Location Maps
Wellesley M&R Station



Facility Location Maps Mystic M&R Station



Facility Location Maps
West Roxbury M&R Station

**Pipe and Contractor Ware Yards** 

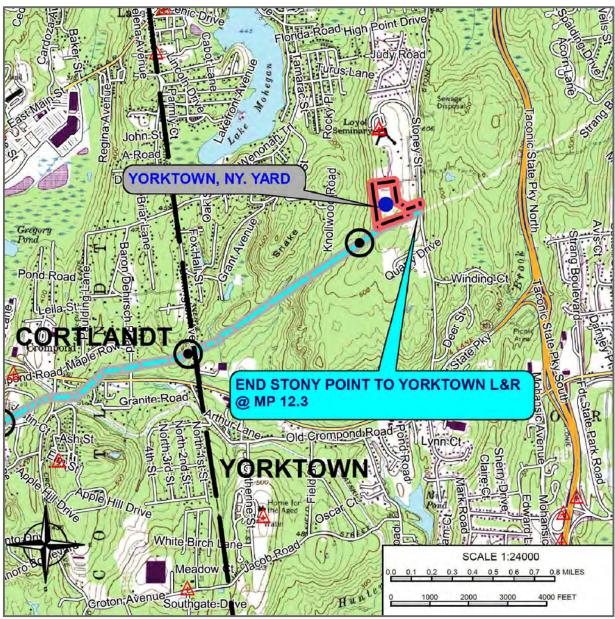


## DANSVILLE, NY. PIPEYARD DANSVILLE AIRPORT Chimminsvill 649 Trailer Park BM 657 DANSV SCALE 1:12000 0.4 MILES 2000 FEET

### Appendix B AIM Project

Facility Location Maps Dansville Yard





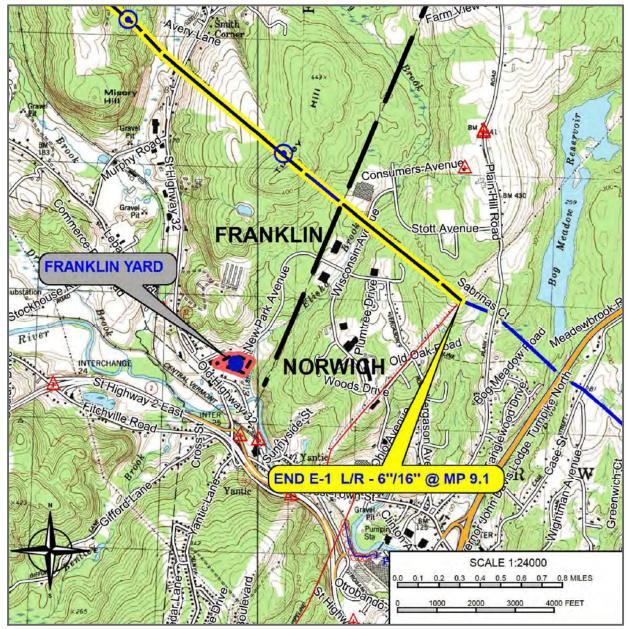
Facility Location Maps Yorktown Yard





Facility Location Maps Danbury Yard





Facility Location Maps Franklin Yard

## APPENDIX C ADDITIONAL TEMPORARY WORKSPACE TABLE

#### APPENDIX C

			TABLE	C-1			
Lo	cation of Additio	nal Temporary \	Workspac	e Along the	AIM Project Pipeline F	acilities	
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) <sup>a</sup>	Acres	Existing Land Use b	Justification	Requires Variance	Wetland or Waterbody
Haverstraw to Stony Po	int Take-up and I	Relay					
Rockland County, NY							
0.0	Right	39 x 200	0.16	F, O	Valve site 13B	No	NA
0.0	Right	140 x 153	0.49	F, I, O	Valve site 13B	No	NA
0.3	Left	81 x 305	0.33	I, O R	Waterbody and road crossing	No	NA
0.6	Left	50 x 100	0.12	F	Wetland	No	NA
0.7	Left	50 x 415	0.47	F	Wetland	No	NA
0.9	Left	50 x 350	0.40	F	Wetland	No	NA
1.1	Left	65 x 450	0.49	F, I, R	Wetland/waterbody	Yes	B13-RLR-W3; B13-RLR-S3D; B13 RLR-S3I; B13-RLR-S3J
1.2	Left	30 x 450	0.33	F	Road crossing	No	NA
1.2	Left	55 x 180	0.23	F, I, R	Road crossing	No	NA
1.7	Left	30 x 1135	0.69	F, O, R	Wetland and stream crossing	No	NA
2.0	Right	10 x 135	0.03	F	Wetland	No	NA
2.2	Left	75 x 750	0.92	F, I, O, R	Road crossing (Palisades Interstate Parkway) and wetland	Yes	B13-RLR-S6
2.2	Right	40 x 450	0.37	F, I, O, R	Road crossing (Palisades Interstate Parkway) and wetland	No	NA
2.7	Right	20 x 760	0.37	O, R	Wetland	No	NA
3.0	Left	90 x 700	0.26	F, I, O, R	Highway 210 crossing and wetland	Yes	B13-RLR-W9; B13-RLR-W10; B13-RLR-S10A
3.0	Right	65 x 600	0.09	F, I, O, OW	Highway 210 crossing and wetland	Yes	B13-RLR-W10; B13-RLR-S10
Stony Point to Yorktown	n Take-up and Re	elay					
Rockland County, NY							
0.1	Left	35 x 200	0.16	F	Overhead transmission lines	No	NA
0.4	Left	35 x 100	0.08	F	Stream crossing	No	NA
0.4	Left	35 x 185	0.12	F, R	Stream crossing	Yes	A13-SPLR-S1
0.4	Right	90 x 160	0.18	I, R	Road crossing	No	NA
0.7	Right	70 x 125	0.10	Ŕ	Road crossing	No	NA
0.7	Left	80 x 125	0.18	F, I, R	Road crossing	No	NA
1.3	Left	25 x 100	0.06	F, O, R	Road crossing	No	NA
1.4	Right	50 x 120	0.13	F, I, R	Road crossing	No	NA
1.4	Left	50 x 125	0.12	F, I	Road crossing	No	NA
1.7	Right	50 x 280	0.28	F, I, O	Road crossing	No	NA

TABLE C-1 (cont'd)  Location of Additional Temporary Workspace Along the AIM Project Pipeline Facilities							
Loc Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) a	<b>Norkspac</b> Acres	Existing Land Use b	AIM Project Pipeline F  Justification	Requires Variance	Wetland or Waterbody
2.5	Left	20 x 125	0.06	F, R	MLV cross over	No	NA
2.0	2011	20 X 120	0.00	.,	piping and launcher facility	110	
2.6	Left	30 x 100	0.07	F, O	MLV cross over piping and launcher facility	No	NA
3.0	Right	70 x 500	0.39	F, I	Road crossing	No	NA
3.1	Right	15 x 90	0.03	F, O	Wetland	No	NA
3.2	Right	320 x 225	1.81	1	HDD entry point	No	NA
3.2	Left	25 x 215	0.10	1	HDD entry point	No	NA
Westchester County, NY							NA
3.9	Left	190 x 460	2.27	F, I, OW	HDD exit point	No	NA
3.9	Right	185 x 555	2.39	F, I, OW	HDD exit point	No	NA
4.1	Right	1265 x 100	2.86	F	HDD pullback	No	NA
4.2	Left	245 x 370	2.12	F, I	Staging equipment for HDD work; overhead transmission lines	No	NA
4.5	Right	35 x 305	0.22	F, I	Wetlands and road crossing	No	NA
4.5	Right	705 x 510	6.38	F, I	Wetlands and road crossing	No	NA
4.8	Left	40 x 255	0.19	F, I	Wetlands and road crossing	No	NA
5.1	Right	20 x 100	0.05	F	Wetlands	No	NA
5.2	Right	20 x 195	0.10	F	Wetlands	No	NA
5.4	Right	35 x 100	0.08	F, O	Wetland	No	NA
5.5	Left	100 x 100	0.27	F, O	Road crossing	No	NA
5.5	Left	65 x 165	0.23	F, I, O	Road crossing	No	NA
5.6	Left	35 x 100	0.08	F	Wetland	Yes	B13-SPLR-W
5.9	Right	20 x 330	0.15	I, O, R	Wetland and road crossings	Yes	B13-SPLR-W
5.9	Left	255 x 300	0.56	F, R	Wetland	Yes	B13-SPLR-W
5.9	Right	35 x 740	0.64	F, O	Wetland	Yes	B13-SPLR-W2 B13-SPLR-S2
6.0	Left	35 x 100	0.08	F	Wetland	No	NA
6.3	Left	35 x 100	0.08	F	Wetland	No	NA
6.4	Left	60 x 265	0.13	F	Road crossing	No	NA
6.7	Left	35 x 230	0.18	F, I, R	Road crossing	Yes	B13-SPLR-W
6.8	Left	35 x 100	0.08	F	Wetland	No	NA
6.9	Left	35 x 100	.08	F	Wetland	No	NA
7.0	Right	95 x 460	0.45	F	Wetland	No	NA
7.4	Left	35 x 200	0.16	F, O	Wetland	Yes	B13-SPLR-W
7.5	Left	35 x 100	0.09	F, O	Wetland	No	NA
7.6	Left	35 x 100	0.08	F, O	Wetland	No	NA
7.9	Left	35 x 525	0.41	F, O	Wetland	No	NA
8.2	Left	35 x 100	0.08	I	Wetland	No	NA
8.3	Left	35 x 100	0.08	I	Wetland	No	NA
8.3	Left	35 x 100	0.08	A, I	Wetland	No	NA
8.4	Left	35 x 100	0.08	F	Wetland	No	NA

Lo	cation of Additio		ГАВLЕ С- <b>Workspa</b> c	,	AIM Project Pipeline	Facilities	
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) <sup>a</sup>	Acres	Existing Land Use <sup>b</sup>	Justification	Requires Variance	Wetland or Waterbody
8.5	Left	50 x 150	0.15	F, I	Wetland and road crossing	Yes	A13-SPLR-W2
8.6	Left	50 x 100	0.11	F	Wetland	Yes	A13-SPLR-W2
8.8	Left	50 x 375	0.43	F	Wetland	Yes	A13-SPLR-W2 B13-SPLR-W1
8.9	Left	50 x 285	0.31	F	Wetland	No	NA
9.2	Right	90 x 165	0.18	F, I, R	Road crossing	No	NA
9.2	Left	30 x 160	0.11	F, I	Road crossing	Yes	A13-SPLR-W4
9.4	Right	45 x 180	0.13	I, R	Wetland and road crossing	No	NA
9.5	Right	50 x 100	0.11	F, R	Road crossing	No	NA
9.5	Right	50 x 100	0.11	F	Wetland	No	NA
9.6	Left	30 x 205	0.14	F, I, O, R	Wetland and road crossing	Yes	B13-SPLR- W43; B13- SPLR-W206
9.8	Right	30 x 170	0.06	F, I, R	Road crossing	No	NA
9.8	Right	105 x 255	0.39	R	Road crossing	No	NA
9.9	Left	155 x 280	0.47	F, I, R	Wetland	Yes	B13-SPLR-W2
10.1	Left	105 x 275	0.48	I, R	Road crossing	No	NA
10.2	Right	80 x 320	0.30	F, I, R	Road crossing	No	NA
10.3	Right	95 x 730	0.45	F, I, R	Wetland and road crossing	Yes	B13-SPLR- S21A; B13- SPLR-S21B
10.5	Right	80 x 130	0.07	1	Road crossing	No	
10.5	Left	30 x 220	0.15	F, I, O	Wetland and road crossing	Yes	B13-SPLR-W2
10.7	Left	65 x 155	0.11	F, O, R	Wetland and road crossing	Yes	B13-SPLR-W2
10.9	Left	35 x 100	0.08	F	Wetland	No	NA
11.0	Right	20 x 150	0.07	I, O	Wetland and road crossing	Yes	B13-SPLR-W4
11.1	Left	35 x 135	0.11	F, I	Road crossing	No	NA
11.1	Left	35 x 100	0.08	F	Wetland	No	NA
11.2	Left	35 x 100	0.09	F	Wetland	No	NA
11.5	Left	35 x 100	0.08	F	Wetland	No	NA
11.6	Left	35 x 100	0.08	F	Wetland	No	NA
11.7	Left	35 x 100	0.08	F	Wetland	No	NA
11.8	Left	35 x 100	0.08	F	Wetland	No	NA
12.0	Left	35 x 100	0.08	F	Wetland	No	NA
12.0	Left	35 x 100	0.08	F	Wetland	No	NA
12.3	Left	85 x 355	0.66	F, I	Road crossing	No	NA
12.3	Right	10 x 355	0.09	F, I, O	Road crossing	No	NA
Southeast to MLV-19 Ta	ake-up and Relay						
Fairfield County, CT							
0.4	Left	35 x 725	0.58	F, I	Road crossing(s)	Yes	B13-SELR-W
0.6	Left	35 x 630	0.50	F, I	Wetland and road crossing	No	NA
0.7	Left	35 x 180	0.15	F	Wetland	No	NA
1.0	Right	50 x 560	0.60	F, I, O	Wetland and road crossing	No	NA

			TABLE C-	,			
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) a	Workspace Acres	Existing Land Use b	AIM Project Pipeline F  Justification	Requires Variance	Wetland or Waterbody
1.1	Right	50 x 260	0.29	F	Wetland and road crossing	No	NA
1.4	Left	45 x 2050	1.53	F, I	Staging area for HDD entry point (I- 84, Still River, Mill Plain Road)	No	NA
1.5	Right	175 x 1180	3.09	I, O	Staging area for HDD entry point (I- 84, Still River, Mill Plain Road)	No	NA
1.9	Left	120 x 215	0.29	I	Staging area for HDD exit point (I- 84, Still River, Mill Plain Road)	No	NA
1.9	Right	315 x 235	0.99	I	Staging area for HDD exit point (I- 84, Still River, Mill Plain Road)	No	NA
2.0	Right	100 x 175	0.22	1	Road crossing	No	NA
2.1	Left	145 x 190	0.21	F	Wetland	No	NA
2.1	Right	335 x 190	0.22	F, I, O	Wetland	No	NA
2.4	Right	50 x 125	0.14	F, I, R	Road crossing	No	NA
2.4	Left	35 x 110	0.09	I, R	Road crossing	No	NA
2.6	Left	35 x 100	0.08	., F	Wetland	No	NA
2.7	Left	50 x 140	0.13	F	Wetland	Yes	A13-SELR-W4
3.0	Left	60 x 260	0.30	F, I	Wetland	No	NA NA
3.2	Left	10 x 360	0.10	F, I, R	Wetland and road crossing	No	NA
3.3	Left	60 x 152	0.08	R	Wetland and road crossing	Yes	B13-SELR-S1
3.4	Left	45 x 90	80.0	R	Wetland and road crossing	No	NA
3.4	Right	35 x 305	0.20	F, O, R	Wetland and road crossing	No	NA
3.5	Right	30 x 160	0.10	F, I, O	Wetland and road crossing	No	NA
3.6	Left	10 x 490	0.11	F	Wetland	No	NA
3.9	Right	50 x 175	0.19	F, I	Wetland and road crossing	No	NA
4.3	Left	25 x 70	0.04	I, R	Road crossing	No	NA
4.5	Left	145 x 285	0.96	R	Valve site 19	No	NA
E-1 System Lateral Take	•						
New London County, CT							
0.0	Left	35 x 180	0.13	F, I	Wetland and road crossing	Yes	B13-ELR-W200
0.1	Left	50 x 100	0.11	F	Wetland	No	NA
0.6	Left	50 x 100	0.11	F	Waterbody	No	NA
0.7	Left	50 x 100	0.12	F	Waterbody/wetland	Yes	A13-ELR-W1; A13-ELR-S1
0.9	Left	50 x 300	0.35	F, I	Wetland and road crossing	No	NA
0.9	Right	25 x 220	0.13	F, I, O	Road crossing	No	NA

TABLE C-1 (cont'd)  Location of Additional Temporary Workspace Along the AIM Project Pipeline Facilities							
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) <sup>a</sup>	Acres	Existing Land Use <sup>b</sup>	Justification	Requires Variance	Wetland or Waterbody
1.2	Right	50 x 100	0.12	F	Waterbody	No	NA
1.2	Right	50 x 100	0.12	F	Waterbody	No	NA
1.8	Right	50 x 100	0.11	A, F	Wetland	No	NA
1.9	Left	50 x 330	0.38	A, I	Wetland and road crossing	No	NA
1.9	Right	75 x 145	0.09	A, I	Wetland and road crossing	Yes	A13-ELR-W2
2.3	Left	50 x 245	0.28	Α	Wetland	No	NA
2.4	Left	50 x 100	0.11	Α	Wetland	No	NA
2.4	Left	50 x 100	0.11	Α	Wetland	No	NA
2.5	Left	50 x 200	0.23	A, F	Wetland	No	NA
2.6	Left	50 x 100	0.12	0	Wetland	No	NA
2.9	Left	50 x 100	0.12	F	Wetland	No	NA
3.1	Left	50 x 300	0.33	F, I	Wetland and road crossing	No	NA
3.3	Left	50 x 100	0.11	F	Wetland	No	NA
3.3	Left	50 x 100	0.12	F	Wetland	No	NA
3.4	Left	50 x 100	0.11	F	Wetland	No	NA
3.5	Left	50 x 100	0.12	A, F	Wetland	No	NA
3.7	Left	50 x 100	0.12	F	Waterbody	No	NA
3.8	Left	50 x 100	0.12	F	Waterbody	No	NA
4.1	Left	50 x 100	0.11	0	Wetland	No	NA
4.4	Left	50 x 100	0.11	0	Wetland	No	NA
4.5	Left	50 x 100	0.11	0	Wetland	No	NA
4.5	Left	50 x 100	0.11	0	Wetland	No	NA
4.7	Left	50 x 100	0.11	0	Waterbody	No	NA
4.7	Left	50 x 100	0.11	0	Waterbody	No	NA
4.8	Left	50 x 100	0.11	0	Waterbody	No	NA
4.8	Left	50 x 100	0.11	0	Waterbody	No	NA
4.9	Left	50 x 150	0.17	0	Waterbody/wetland	Yes	B13-ELR-S1
5.0	Left	50 x 100	0.11	0	Wetland	No	NA
5.0	Left	50 x 100	0.11	0	Waterbody	No	NA
5.1	Right	50 x 100	0.12	F, O	Waterbody	No	NA
5.1	Right	25 x 100	0.06	F	Spread move- around	No	NA
5.3	Right	50 x 100	0.11	F	Wetland/waterbody	No	NA
5.4	Left	25 x 100	0.05	0	Wetland	No	NA
5.6	Left	50 x 250	0.29	0	Wetland	No	NA
5.6	Left	50 x 100	0.11	0	Wetland	No	NA
5.7	Right	25 x 295	0.16	F, I, O	Wetland	No	NA
5.8	Left	50 x 100	0.12	F	Wetland/waterbody	No	NA
5.8	Left	50 x 50	0.07	F	Waterbody	Yes	B13-ELR-S5
5.9	Left	50 x 100	0.11	F	Wetland	No	NA
6.0	Left	50 x 150	0.16	F	Road crossing	No	NA
6.1	Left	50 x 100	0.11	F	Wetland	No	NA
6.1	Left	35 x 100	0.08	F	Wetland	No	NA
6.3	Left	50 x 100	0.11	F	Wetland	No	NA
6.4	Left	50 x 100	0.11	F	Wetland	No	NA

			TABLE C-	,			
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) a	<b>Norkspac</b> Acres	Existing Land Use b	AIM Project Pipeline F  Justification	Requires Variance	Wetland or Waterbody
6.7	Left	50 x 130	0.14	F, O	Spread move- around	No	NA
6.7	Right	75 x 100	0.17	F	Spread move- around	No	NA
6.9	Left	25 x 145	0.08	F, O	Wetland	No	NA
6.9	Left	50 x 100	0.12	F	Wetland	No	NA
7.2	Left	50 x 150	0.17	F	Wetland	No	NA
7.3	Right	135 x 275	0.50	F, I	Wetland and road crossing	Yes	B13-ELR-W22
7.3	Left	175 x 350	1.16	F, I	Wetland and road crossing	Yes	B13-ELR-W22
7.4	Left	50 x 100	0.11	F	Wetland	No	NA
7.8	Left	50 x 100	0.11	Α	Wetland	No	NA
7.9	Left	50 x 100	0.11	F	Wetland	No	NA
8.3	Left	50 x 100	0.11	F	Wetland	No	NA
8.4	Left	50 x 100	0.12	F, I	Wetland	No	NA
8.5	Left	50 x 150	0.16	F, I	Waterbody and road crossing	Yes	B13-ELR-S18
8.5	Right	150 x 155	0.24	F, I	Road crossing	Yes	B13-ELR-S18
8.6	Left	25 x 100	0.06	F	Spread move- around	No	NA
8.7	Left	50 x 100	0.11	F	Wetland	No	NA
8.8	Left	50 x 100	0.11	F	Wetland	No	NA
8.9	Left	50 x 100	0.11	F	Wetland/waterbody	Yes	B13-ELR-S24
9.0	Left	50 x 100	0.11	F	Waterbody	No	NA
9.1	Left	25 x 150	0.09	0	Valve assembly at a new launcher/ receiver facility	No	NA
9.1	Right	235 x 150	0.80	F, O	Valve assembly at a new launcher/ receiver facility	No	NA
<b>Line-36A Loop Extension</b> Middlesex County, CT					·		
0.1	Left	35 x 100	0.08	F	Wetland	No	NA
0.7	Left	35 x 100	0.08	F	Wetland	No	NA
0.9	Left	50 x 175	0.15	Α	Wetland	No	NA
1.0	Left	35 x 80	0.04	Α	Wetland	No	NA
1.1	Left	35 x 150	0.12	Α	Wetland	No	NA
1.4	Left	30 x 85	0.04	F, R	Wetland	No	NA
1.4	Left	25 x 120	0.06	F	Wetland	No	NA
1.6	Right	95 x 200	0.28	A, I	Existing pipeline crossover	No	NA
1.7	Right	100 x 150	0.34	A, I	Existing pipeline crossover	No	NA
1.7	Right	25 x 100	0.06	A, I	Road crossing	No	NA

TABLE C-1 (cont'd)							
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) a	<b>Norkspac</b> Acres	Existing Land Use b	AIM Project Pipeline F  Justification	Requires Variance	Wetland or Waterbody
E-1 System Lateral Loc		(loct)	Acics	Lana Osc	Justinication	variance	waterbody
New London County	•						
CT CT	•						
0.0	Left	25 x 130	0.07	F, I	Road crossing	No	NA
0.0	Right	105 x 295	0.66	F, I, R	Road crossing	No	NA
0.1	Left	25 x 100	0.06	F, O	Wetland/waterbody	No	NA
0.1	Left	25 x 100	0.06	F, O	Wetland	No	NA
0.2	Left	25 x 100	0.06	F	Wetland	No	NA
0.3	Left	25 x 100	0.06	F	Wetland	No	NA
0.5	Left	25 x 100	0.05	F	Wetland	No	NA
0.6	Right	55 x 155	0.16	F	Spread move- around	No	NA
0.6	Left	55 x 155	0.14	F, O	Spread move- around	No	NA
0.8	Right	25 x 100	0.06	F	Waterbody	No	NA
0.8	Right	25 x 100	0.06	F	Waterbody	No	NA
0.9	Right	25 x 100	0.06	F	Wetland	No	NA
1.0	Right	25 x 100	0.06	F	Wetland	No	NA
1.1	Right	25 x 100	0.06	F	Wetland	No	NA
1.2	Right	25 x 100	0.06	F	Wetland	No	NA
1.2	Left	25 x 140	0.07	F, O	Spread move- around	No	NA
1.3	Left	65 x 365	0.31	F, I	Road crossing	No	NA
Vest Roxbury Lateral							
Norfolk County, MA							
0.0	Right	75 x 145	0.20	F	New launcher/ receiver facilities	No	NA
0.0	Left	70 x 235	0.36	F, I, O, R	New launcher/ receiver facilities	No	NA
0.2	Left	30 x 115	0.24	I	New block valve	No	NA
0.2	Left	25 x 60	0.03	F, O	Road crossing	No	NA
0.4	Left	285 x 350	2.10	F, O	Staging for I-95 crossing	No	NA
0.5	Right	50 x 100	0.11	F, I	Staging for I-95 crossing	No	NA
0.6	Right	50 x 255	0.46	I	Railroad and road crossing	No	NA
0.9	Right	60 x 135	0.15	I	Existing utility lines	No	NA
1.1	Left	65 x 175	0.27	I	Existing utility lines	No	NA
1.2	Right	10 x 780	0.23	I	Existing utility lines	No	NA
1.4	Left	130 x 170	0.30	I	Existing utility lines	No	NA
1.5	Right	340 x 225	0.83	1	Existing utility lines	No	NA
1.8	Right	180 x 285	0.45	F, I	Wetland	No	NA
2.5	Right	170 x 100	0.30	I, O	Staging for road crossings and spread move-around	No	NA
2.6	Right	85 x 115	0.06	I, R	Road crossing	No	NA
2.6	Left	50 x 150	0.08	I, O, R	Road crossing	No	NA
3.0	Left	65 x 355	0.53	I, O	Road crossing	No	NA

		7	TABLE C-	1 (cont'd)			
Loc	Location of Additional Temporary Workspace Along the AIM Project Pipeline Facilities						
Facility, County, State, Approximate Milepost	Side of Construction Work Area	Approximate Dimensions (feet) <sup>a</sup>	Acres	Existing Land Use <sup>b</sup>	Justification	Requires Variance	Wetland or Waterbody
3.1	Right	65 x 120	0.09	I, O	Road crossing	No	NA
3.2	Left	60 x 85	0.06	R	Road crossing	No	NA
3.2	Right	25 x 90	0.04	R	Road crossing	No	NA
Suffolk County, MA							
3.8	Right	170 x 180	0.29	I, R	Road crossing	No	NA
5.1	Left	85 x 285	0.16	I, R	Road crossing	No	NA
5.1	Left	100 x 75	0.16	I, R	Staging for road crossings and spread move- around	No	NA

For irregularly shaped workspaces, multiplication of approximate dimensions will not yield the correct workspace area. Refer to "Acres" column for the correct area.

<sup>&</sup>lt;sup>b</sup> A = Agricultural; F = Forest/woodland; I = Industrial/commercial; O = Open land; OW = Open water; R = Residential. NA = Not Applicable

APPE	NDIX D
PROPOSED CONSTRUCTION TE	CHNIQUES BY MILEPOST TABLE

#### APPENDIX D

n	canagad Canatrustic	TABLE D-1	anact for the AIM Draine	
PI	Milepost	Milepost	epost for the AIM Project	
State, County, Municipality	Start	End	Length (Miles) a	Construction Method
IEW YORK				
laverstraw to Stony Point Tal	e-up and Relay			
Rockland County				
Haverstraw	0.00	0.36	0.36	Standard
	0.36	0.63	0.27	Drag
	0.63	1.0	0.37	Standard
	1.0	1.18	0.18	Drag
Stony Point	1.18	1.20	0.02	Drag
	1.20	1.61	0.41	Standard
	1.61	1.80	0.19	Drag
	1.80	1.90	0.10	Standard
	1.90	2.16	0.26	Drag
	2.16	2.20	0.04	Bore
	2.20	3.00	0.80	Drag
	3.00	3.27	0.27	Standard
Stony Point to Yorktown Take	-up and Relay			
Rockland County				
Stony Point	0.00	0.36	0.36	Standard
·	0.36	0.71	0.35	Drag
	0.71	1.29	0.58	Standard
	1.29	2.62	1.33	Drag
	2.62	3.14	0.52	Standard
	3.14	3.15	0.01	Bore
	3.15	3.19	0.04	Standard
	3.19	3.53	0.34	Hudson River HDD
Westchester County				
Cortlandt				
Verplanck	3.53	3.91	0.38	Hudson River HDD
Verplanck	3.91	4.60	0.69	Standard
Buchanan	4.60	4.77	0.17	Standard
Buchanan	4.77	4.78	0.01	Bore
Buchanan	4.78	5.48	0.70	Standard
Buchanan	5.48	5.71	0.23	Drag
Peekskill	5.71	5.72	0.01	Bore
Peekskill	5.72	5.74	0.02	Bore
Peekskill	5.74	5.81	0.02	Drag
Peekskill	5.81	5.84	0.07	Bore
i GCNONIII	5.84	5.86	0.03	Bore
Peekskill	5.86	5.88	0.02	
				Bore
Peekskill	5.88 5.06	5.96 6.34	0.08	Drag Standard
	5.96	6.34	0.39	Standard
	6.34	6.70	0.36	Drag
	6.70	8.08	1.38	Standard
	8.08	8.36	0.28	Drag
	8.36	8.94	0.58	Standard

		TABLE D-1 (cont'd)	)				
Proposed Construction Techniques by Milepost for the AIM Project							
State, County, Municipality	Milepost Start	Milepost End	Length (Miles) a	Construction Method			
	8.94	10.47	1.53	Drag			
	10.47	10.50	0.03	Bore			
	10.50	10.74	0.24	Drag			
	10.74	11.02	0.28	Standard			
Yorktown	11.02	11.16	0.14	Drag			
	11.16	12.31	1.15	Standard			
Southeast to MLV-19 Take-up	and Relay						
Putnam County							
Southeast	0.00	0.13	0.13	Standard			
CONNECTICUT							
Southeast to MLV-19 Take-up	and Relay						
Fairfield County							
Danbury	0.13	1.23	1.10	Standard			
<b>,</b>	1.23	1.42	0.19	Drag			
	1.42	2.07	0.65	Interstate 84 HDD			
	2.07	4.47	2.40	Drag			
ine-36A Loop Extension							
Middlesex County							
Cromwell	0.00	1.21	1.21	Standard			
	1.21	1.34	0.13	Drag			
	1.34	1.8	0.46	Standard			
Hartford County							
Rocky Hill	1.8	2.00	0.2	Standard			
E-1 System Lateral Take-up ar	nd Relay						
New London County	•						
Lebanon	0.00	1.84	1.84	Standard			
	1.84	1.91	0.07	Drag			
	1.91	1.92	0.01	Bore			
	1.92	2.03	0.11	Drag			
	2.03	3.90	1.87	Standard			
Franklin	3.90	5.81	1.91	Standard			
	5.81	5.82	0.01	Bore			
	5.82	6.00	0.18	Standard			
	6.00	6.01	0.01	Bore			
	6.01	7.35	1.34	Standard			
	7.35	7.36	0.01	Bore			
	7.36	8.37	1.01	Standard			
Norwich	8.37	9.11	0.74	Standard			
E-1 System Lateral Loop Exter		0.11	<b></b> 1	Candara			
New London County							
Montville	0.00	0.02	0.02	Standard			
	0.00	0.21	0.21	Drag			
	0.21	1.32	1.11	Standard			

Proposed Construction Techniques by Milepost for the AIM Project								
State, County, Municipality	Milepost Start	Milepost End	Length (Miles) <sup>a</sup>	Construction Method				
MASSACHUSETTS								
West Roxbury Lateral								
Norfolk County								
Westwood	0.00	0.16	0.16	Drag				
	0.16	0.18	0.02	Bore				
	0.18	0.41	0.23	Drag				
	0.41	0.47	0.06	Bore Interstate 95				
Dedham	0.47	0.62	0.15	Drag				
	0.62	0.64	0.02	Bore				
	0.64	2.42	1.78	Drag / In-street				
	2.42	2.54	0.12	Drag				
	2.54	3.12	0.58	Drag / In-street				
	3.12	3.14	0.02	Drag				
	3.14	3.44	0.30	Drag / In-street				
Suffolk County								
Boston								
West Roxbury	3.44	4.25	0.81	Drag / In-street				
	4.25	4.36	0.11	Drag				
	4.36	5.14	0.78	Drag / In-street				

# APPENDIX E ROCK REMOVAL PLAN



# Algonquin Gas Transmission, LLC

# ALGONQUIN INCREMENTAL MARKET PROJECT

**Rock Removal Plan** 

February 2014



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APPENDIX A: Shallow Bedrock Locations Along the AIM Pipeline Facilities





#### 1.0 INTRODUCTION

This Rock Removal Plan ("Plan") describes the methods that will be implemented during construction of the Algonquin Gas Transmission, LLC ("Algonquin") Incremental Market Project ("AIM Project" or "Project").

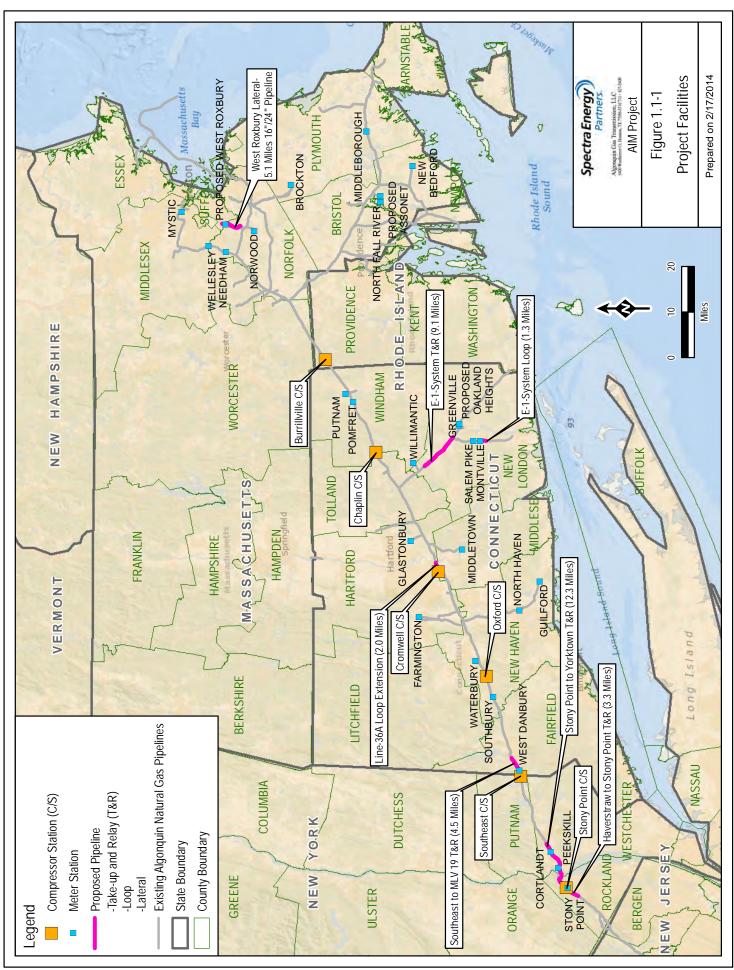
This Plan includes a brief description of the pipeline alignment, and overall physiological setting and bedrock geology in the vicinity of the Project. Information on shallow-to-bedrock soils and bedrock outcroppings is taken from the local published soil maps (and unpublished maps in progress) as acquired from the Natural Resources Conservation Service ("NRCS"). General bedrock type is also discussed. A map depicting the location of the AIM Project pipeline route is provided in Figure 1.1-1.

Information on the characteristics of the bedrock may be evaluated at least in a general sense, and applied towards an appropriate bedrock excavation method. The bedrock properties were developed using historical and observational data; Algonquin will continue this approach while assessing the pipeline route.

The hard and intact nature of the unweathered igneous bedrock (basalts and granites) and metamorphic bedrock (slates, phyllites, schists and quartzites) dictate what removal methods will be utilized. Soft bedrock, such as sedimentary or weathered igneous and metamorphic rock, may possibly be removed by ripping. Other geologic features may also control the effects of removal. Rock fabric, or the arrangements of minerals, determines intrinsic rock strength, and thus influences rock excavation. Joint spacing, bedding, and foliation also influence rock excavation. Lithologic generalizations of the AIM Project area rock type include:

- granitic rock is invariably resistant, except where weathered;
- granulitic (high temperature-high pressure metamorphic rock with gniessic texture) and migmatitic (cooled rock having reached the boundary between metamorphism and magmatism) rock are also equally resistant;
- ultramafic (rich ferromagnesium) rocks are highly fractured and almost always require blasting.
   Other metamorphic rock along the geothermal gradient may have a wide range of susceptibility to blasting or ripping. It is the most difficult to predict of the hard rocks. Degrees of intensity of metamorphism can be further deduced from the minerals that schists contain; and
- weathered or thinly bedded sedimentary rock is generally amenable to ripping.

These generalizations have been further grouped into two bedrock contact types: Lithic contact and Paralithic contact. The material below a lithic contact is either strongly cemented or the material is indurated and cannot be removed by conventional machinery. The materials below the Paralithic contact are partially weathered bedrock or weakly consolidated bedrock, such as sandstone, siltstone, or shale and is generally considered rippable by machinery. See the tabe in Appendix A which lists the surficial geology associated with areas with shallow-to-bedrock and bedrock outcroppings by mile post ("MP").





#### 2.0 PROJECT ALIGNMENT

The proposed Project consists of:

- Haverstraw to Stony Point Take-up & Relay Take-up and relay 3.3 miles of 26-inch diameter pipeline with 42-inch diameter pipeline in Rockland County, New York upstream of Algonquin's existing Stony Point Compressor Station;
- ◆ Stony Point to Yorktown Take-up & Relay Take-up and relay 9.4 miles of 26-inch diameter pipeline with 42-inch diameter pipeline and the installation of an approximately 2.9-mile section of new pipeline ROW that includes a 0.72-mile horizontal directional drill ("HDD") crossing of the Hudson River. This 12.3-mile segment is located in Rockland County, New York and Westchester County, New York downstream of Algonquin's existing Stony Point Compressor Station:
- ◆ Southeast to MLV 19 Take-up & Relay Take-up and relay 4.5 miles of 26-inch diameter mainline pipeline with 42-inch diameter pipeline (including a new 0.7-mile long, 42-inch diameter HDD pipeline crossing of Interstate 84 and the Still River) located in Putnam County, New York and Fairfield County, Connecticut downstream of and between Algonquin's existing Southeast Compressor Station and mainline valve ("MLV") 19;
- <u>Line-36A Loop Extension</u> Installation of 2.0 miles of 36-inch diameter pipeline loop extension in Middlesex County, Connecticut and Hartford County, Connecticut downstream of Algonquin's existing Cromwell Compressor Station;
- E-1 System Lateral Take-up & Relay Take-up and relay 9.1 miles of 6-inch diameter pipeline with 16-inch diameter pipeline on Algonquin's existing E-1 System in New London County, Connecticut;
- <u>E-1 System Lateral Loop</u> Installation of 1.3 miles of 12-inch diameter pipeline loop on Algonquin's existing E-1 System in New London County, Connecticut; and
- West Roxbury Lateral Installation of 5.1 miles of new 16-inch diameter pipeline and 0.9 miles of new 24-inch diameter pipeline off of Algonquin's existing I-4 System in Norfolk and Suffolk Counties, Massachusetts.

There will also be a number of modifications to existing compressor stations and metering and regulating ("M&R") facilities, as well as installation of ancillary facilities for the pipeline which will consist of mainline valves and other appurtenant facilities.



#### 3.0 GEOLOGIC SETTING

#### 3.1 Physiography

The geology of the AIM Project area is very diverse, with complex arrays of folded and faulted metamorphic and igneous bedrock overlain by glacial deposits of varying thickness. Resource Report 6 provides additional information on geology.

Project facilities located in New York, Connecticut, and Rhode Island are within the New England Upland section of the New England province. This section is often described as a complex sequence of terrains, which are the result of land masses accreted to North America during the formation of Pangea and continental rifting during Pangea's separation. This resulted in mountainous areas with adjacent ranges having varied and distinct lithologies. These mountains were eroded and are now represented by the Ramapo Mountains in New York and the Bolton Range and Mohegan Range in Connecticut.

Project facilities in Massachusetts are located in the Coastal Lowland section of the New England province. The section was largely inundated by ocean water as the Laurentian ice sheet receded at the close of the Wisconsin glaciation. Erosion by wave action lowered the relief of these areas so that, once the land rebounded, the coastal areas had lower relief than areas further inland.

#### 3.2 Topography

The pipeline route from Haverstraw to Stony Point traverses gentle slopes, hills of moderate relief (<200 feet), and slopes that are moderate. From Algonquin's existing Stony Point Compressor Station, the pipeline traverses moderate to steep relief and ascends and descends the moderate to steep slopes of Buckberg Mountain (approximately 450 feet of relief). It descends to the western shore of the Hudson River, comes ashore on the east bank of the Hudson River and continues along gentle to moderate slopes. In Connecticut, the pipeline segment traverses rolling hills with steep, moderate, and gentle slopes including a series of drumlins. In Massachusetts, the West Roxbury Lateral traverses gently sloping land along existing roadways. There is no pipeline proposed in Rhode Island.

#### 3.3 Surficial Geology

Surficial geology of the AIM Project area is dominated by glacial till with discontinuous bedrock outcroppings, sand and gravel deposits, and fine grained deposits consisting of lacustrine and swamp sediments. Quaternary deposits can be broken out into three general categories, based on their depositional environment: deposits laid down by advancing ice sheets (moraines and most tills); glacial melt deposits (stratified deposits from glacial streams and lakes); and postglacial deposits (alluvium in existing floodplains and swamp deposits). Quaternary geologic materials may be categorized by their depositional environment (e.g., swamp), grain size (e.g., sand and gravel), formation type (e.g., moraine), or a combination of these (e.g., lacustrine sand).

The NRCS data collected for Resource Report 7 reveals that all soils with shallow-to-bedrock and bedrock outcroppings that are found within the AIM Project are glacial tills. See the table in Appendix A which lists the surficial geology associated with areas with shallow-to-bedrock and bedrock outcroppings by MP.



#### 3.4 Subsurface Geology

Bedrock geology of the AIM Project area is dominated by igneous and metamorphic rocks with carbonate rock in limited areas. These rocks are characterized as having a lithic contact and will mostly require blasting for removal. A review of bedrock geology maps provided information regarding the nature of units expected in the Project area. Bedrock geology maps can be found in Appendix 6B of Resource Report 6.

#### **New York**

<u>Hornblende Granite and Granite Gneiss (hg)</u> - Middle Proterozoic age hornblende granite and granite gneiss with subordinate leucogranite.

<u>Diorite with hornblende and/or biotite (Od)</u> – Upper Ordovician age diorite with hornblende and/or biotite that is part of the Cortlandt and smaller mafic complexes.

Manhattan Formation (Undivided) (Om) – The Manhattan Formation is comprised of Ordovician pelitic schists, amphibolites and part of Trenton Group and Metamorphic Equivalents up to 8,000 feet (2,400 meters). The unit is mapped under Om in digital mapping but can be subdivided into Cambrian eugeosynclinal rocks (Omb, Omc, and Omd). Subunit Omd is comprised of sillimanite-garnet-muscovite-biotite-plagioclase-quartz gneiss. Subunit Omc is comprised of sillimanite-garnet-muscovite-biotite-quartz-plagioclase schistose gneiss, sillimanite nodules, and local quartz-rich layers. Subunit Omb is comprised of a discontinuous unit of amphibolite and schist.

<u>Biotite augite norite (Oban)</u> – Upper Ordovician norite that is part of the Cortlandt and smaller mafic complexes.

<u>Hornblende norite (Ohn)</u> – Upper Ordovician norite that is part of the Cortlandt and smaller mafic complexes. The hornblende is poikilitic.

Olivine pyroxenite (Opx) – Upper Ordovician pyroxenite with poikilitic hornblende that is part of the Cortlandt and smaller mafic complexes. A secondary rock type is peridotite.

<u>Muscovite-biotite granodiorite (Dpgd)</u> – Upper Devonian age muscovite-biotite granodiorite that is part of the Peekskill Pluton.

Muscovite-biotite granite (Dpgr) – Upper Devonian granite that is part of the Peekskill Pluton.

#### Connecticut

<u>Gneiss of Highlands massifs (Yg)</u> – Proterozoic age gneiss with secondary amphibolite and schist that was part of the proto-North American terrane. It may include a mixture of rock types when they aren't mapped separately, including pink granitic gneiss (Ygr), Augen gneiss (Yga), layered gneiss (Ygn), Hornblende gneiss and amphibolite (Ygh), and rusty mica schist and gneiss (Ygs).

<u>Hornblende gneiss and amphibolite (Ygh)</u> – Proterozoic age hornblende gneiss and amphibolite that is dark gray to mottled, fine- to medium-grained, massive to foliated amphibolite and gneiss, composed of hornblende and plagioclase with biotite and minor quartz. This formation is often interlayered with banded felsic gneiss and locally contains calc-silicate rock or diopsidic calcite marble.



<u>Pink granitic gneiss (Ygr)</u> – Proterozoic granitic gneiss that is light pink to gray in color, medium to coarse texture, foliated but generally massive or poorly layered granitic gneiss having quartz, microline, oligoclase, and either biotite or muscovite (or both), with amphibole or epidote occurring locally.

<u>Waterford Group (Zw)</u> – Light to dark, generally medium grained gneiss, composed of plagioclase, quartz, and biotite, with hornblende in some layers and microcline in others. There are layers of amphibolite. The Waterford group is Proterozoic in age and part of the Avalonian Terrane and the Avalonian Anticlinorium.

Waterford Group, Stony Creek Granite Gneiss, and Narragansett Pier Granite (undifferentiated) (Zw+Zsc+Pn) – Proterozoic gneiss and granitic gneiss intruded by Permian age gneiss with considerable pegmatite formations.

<u>Plainfield Formation (Zp)</u> – Comprised of several rock types: Intelayered light gray, thin-bedded quartzite, in places with feldspar, mica, graphite, or pyrite; light to medium gray gneiss composed of quartz, oligoclase, and biotite; medium to dark gray schist composed of quartz, oligoclase, biotite, sillimanite, and garnet; dark gray or green gneiss composed of plagioclase, quartz, biotite, and hornblende; and amphibolite, diopsite-bearing quartzite, and calc-silicate rock. The Plainfield Formation is Proterozoic in age and part of the Avalonian Terrane and the Avalonian Anticlinorium.

<u>Hope Valley Alaskite Gneiss (Zsh)</u> – Light pink to gray, medium- to coarse-grained, locally porphyritic, variably lineated and foliated alaskitic gneiss, composed of microcline, quartz, albite or oligoclase, and minor magnetite, and locally biotite and muscovite. The Hope Valley Alaskite Gneiss is Proterozoic in age and part of the Avalonian Terrane, the Avalonian Anticlinorium, and the Sterling Plutonic.

<u>Potter Hill Granite Gneiss (Zsph)</u> – Light pink to gray (weathering tan) fine- to medium-grained, rarely porphyritic, well-foliated granitic gneiss composed of microcline, quartz, oligoclase (or albite), biotite, and magnetite, minor muscovite and local garnet. The Potter Hill Granite Gneiss is Proterozoic in age and part of the Avalonian Terrane and the Avalonian Anticlinorium.

<u>Stockbridge Marble (OCs)</u> – Lower Ordovician and Cambrian age white to gray, massive to layered marble, generally dolomitic but containing calcite marble in the upper part, locally interlayered with schist or phyllite and with calcareous siltstone or sandstone. The Stockbridge Marble represents the carbonate shelf of the Proto-North American terrane.

<u>Basal marble member of Walloomsac Schist (Owm)</u> – Middle Ordovician dark-gray to white, massive to layered schistose or phyllitic calcite-phlogopite marble.

<u>Brimfield Schist (Obr?)</u> – Upper (possibly) and middle Ordivician gray colored (weathering to rust), medium to coarse-grained, interlayered schist and gneiss, composed of oligoclase, quartz, potassium feldspar, and biotite, commonly with garnet, sillimanite, graphite, and pyrrhotite. Potassium feldspar often occurs as augen ("eyes") 1-3 cm across. Minor layers and lenses include hornblende- and pyroxene-bearing gneiss, amphibolite, and calc-silicate rock.

<u>Yantic Member of Tatnic Hill Formation (Otay)</u> – Upper and Middle Ordovician age medium to dark gray, fine- to medium-grained schist, composed of quartz, oligoclase, biotite, and muscovite, some layers with garnet, staurolite, and kyanite or garnet and sillimanite, local epidote, or potassium feldspar and some layers of rusty-weathering graphitite, pyrrhotitic, two-mica schist.



<u>Tatnic Hill Formation (Ota)</u> – Medium to dark gray, medium-grained gneiss or schist composed of quartz, andesine, biotite, garnet, and sillimanite (locally kyanite, muscovite, or potassium feldspar) that is interlayered with graphitic pyrrhotitic two-mica schist, amphibolite, and calc-silicate rock.

<u>Hebron Gneiss (SOh)</u> – Silurian and Ordivician interlayered dark-gray colored, medium to coarse-grained schist, composed of andesine, quartz, biotite, and local potassium feldspar and greenish-grey, fine to medium-grained calc-silicate rock, composed of labradorite, quartz, biotite, anctinolite, hornblende, and diopside, with local scapolite. There are local lenses of graphitic two-mica schist. The Hebron Gneiss is part of the Iapetus (Oceanic) Terrane and the Merrimack Synclinorium.

<u>Lebanon Gabbro (Dl)</u> – Devonian age, dark, speckled, massive (but locally sheared) gabbro, composed of hornblende, labradorite, and opaques. Some rock bodies contain biotite and quartz, and some smaller bodies are almost pure hornblende with local augite. The Lebanon Gabbro is part of the Iapetus (Oceanic) Terrane and the Merrimack Synclinorium.

<u>Dioritic phase of Lebanon Gabbro (Dld)</u> – Devnoian age white to black, streaked, medium-grained, foliated or sheared mafic gneiss, composed of plagioclase, biotite, quartz, and often hornblende.

<u>Maromas Granite Gneiss (Dm)</u> – Light-gray to buff colored, medium- to fine-grained granitic gneiss, composed of quartz and microcline with minor plagioclase and biotite. Pegmatite bodies are common in the vicinity.

<u>Scotland Schist (DSs)</u> – Devonian or Silurian age silvery (with local rust coloration), fine- to medium-grained schist containing quartz, muscovite, biotite, staurolite, and oligoclase (locally with kyanite or sillimanite) and interlayered with quartz-oligoclase-biotite schist and granofels and quartzite, typically near the base and on the west side of the formation. The Scotland Schist is part of the Iapetus (Oceanic) Terrane and the Merrimack Synclinorium.

<u>Quartzite unit in Scotland Schist (DSsq)</u> – Devonian or Silurian quartzite, generally micaceous, interlayered with mica schist.

<u>Portland Arkose (Jp)</u> – Lower Jurassic age reddish-brown to maroon colored micaceous arkose and siltsone and red to black fissile silty shale. On the east it grades into coarse conglomerate.

<u>New Haven Arkose (TRnh)</u> – Red, pink, and gray colored coarse-grained poorly sorted and indurated arkose, with conglomerate locally, that is interbedded with brick-red micaceous, locally shaly siltstone and fine-grained feldspathic clayey sandstone.

#### Massachusetts

<u>Dedham Granite (Zdgr)</u> – Proterozoic, light grayish-pink to greenish-gray, equigranular to slightly porphyritic, variably altered granite with secondary diorite and quartz monzonite.

<u>Granite of the Fall River pluton (Zfgr)</u> – Proterozoic age light-gray, medium-grained, biotite granite, partially mafic-poor.

<u>Gneiss and schist near New Bedford (Zgs)</u> – Proterozoic age hornblende and biotite schist and gneiss, amphibolite.

Westwood Granite (Zwgr) – Proterozoic age light gray to pinkish gray, fine to medium grained granite.



<u>Granite</u>, <u>gneiss</u>, <u>and schist</u>, <u>undivided</u> (<u>Zgg</u>) –Plutonic and metamorphic rocks that are probably Proterozoic in age.

<u>Cambridge Argillite (PzZc)</u> – Proterozoic to early Paleozoic age gray argillite to minor quartzite with some sandstone and conglomerate.

<u>Roxbury Conglomerate (PzZr)</u> – Proterozoic to early Paleozoic age conglomerate, sandstone, siltstone, argillite, and metaphyre.

<u>Wamsutta Formation (Pw)</u> – Middle to Lower Pennsylvanian age, red to pink colored, well-sorted conglomerate, greywacke, sandstone, and shale.

<u>Rhode Island Formation (Pr)</u> – Upper and Middle Pennsylvanian age gray sandstone, graywacke, shale, and conglomerate and black shale. Also contains minor meta-anthracite beds.

#### 3.5 Soil Hazards

The characteristics of the major soil types, vegetative cover, and slope are important factors in determining the potential for soil hazards. With regards to rock removal, there are areas identified along the AIM Project that are prone to introduction of rocks into topsoil during excavation and backfilling. Other issues of potential soil hazards include areas along the pipeline route that are prone to severe erosion, are designated as prime farmland, hydric, prone to compaction, and soils with poor or very poor revegetation potential. These soil hazards are further discussed in Section 7.3 of Resource Report 7.

Soils with shallow-to-bedrock soils and bedrock outcroppings are shown by pipeline segment and MP in Appendix A. Soil descriptions of each soil type can be cross referenced by the Soil Map Unit in Resource Report 7.



#### 4.0 ROCK REMOVAL CONSIDERATIONS

This Rock Removal Plan will be utilized for each site when solid rock is encountered as part of the pipeline trench excavation, the grading to prepare a level linear work area, or the excavation for above ground facilities. Refer to the table in Appendix A which identifies areas of the pipeline route where bedrock is expected within sixty inches of natural grade by MP. Construction within these areas may encounter solid rock while excavating or grading.

If rock is encountered, the experienced contractor will analyze the rock type and hardness, and consider all other contributing factors – such as location, surrounding environment, nearby facilities, residences, and/or resources. The procedures outlined in the Rock Removal Plan will then be utilized to determine a suitable rock removal procedure, subject to Algonquin approval.

Should rock be encountered during grading or trench excavation, the contractor will assess the rock properties and attempt to remove rock using simple mechanical processes, such as a bull dozer mounted rock ripping attachment, or rock teeth on an excavator bucket. If alternative methods are considered, such as an excavator mounted hydraulic breaker, line drilling and ripping, or drilling and blasting, approval from Algonquin will be required.

For rock removal adjacent to other utilities, information will be gathered on the depth of trench, proximity to the existing utility, the type of rock, and other factors. Following an evaluation by Algonquin, the contractor will be notified of all approved rock removal methods for the site that adhere to Algonquin specifications.

The contractor will then assess proximity to structures, resources, facilities, and residences. Federal, state, and local regulations will be consulted to determine acceptable removal methods within the area. If blasting is allowed, all necessary steps will be taken to protect existing conditions - such as pre/post blast surveys at residences and structures, water well testing as applicable, and utilization of blasting mats.

The contractor will make a reasonable effort to first mechanically remove the rock in congested or densely residential areas. If the mechanical methods of removal fail to properly fragment the rock, then blasting will be used (where allowed by Algonquin and applicable regulations). For all other areas, the contractor will ultimately select the rock removal method from the methods approved by Algonquin and applicable regulations. The decision will be based upon the factors listed above, as well as others. These additional factors are inclusive of, but are not limited to: volume of rock to be removed, availability of equipment and personnel, and site specific considerations.

If blasting is selected, then site-specific detailed blasting plans will be developed for each site to meet Algonquin's specifications and standard practices.



#### 5.0 ROCK REMOVAL METHODS

There are several possible methods to remove rock from within an excavation. Each method is best suited for specific situations due to individual advantages and limitations.

As per Algonquin specifications, all forms of mechanical rock removal will occur between the hours of 7 a.m. and 6 p.m. (unless otherwise specified by Algonquin or restricted by permit). Additionally, a fragmentation rate of at least 75 percent of trench rock to less than 6 inches in diameter is required.

Provided below is a general overview of each method.

#### 5.1 Excavation

During normal trenching activities, the contractor will be using excavators to remove soil from the path of the pipeline. If the excavator encounters small to medium boulders, then it may be possible for the machine to remove the rock. However, it is expected that the excavator may encounter bedrock while trenching. The contractor may be able to "rip" the bedrock using rock teeth on an excavator bucket excavator or a ripping attachment on a bull dozer.

When ripping of the rock is not practical or possible, other means of rock fragmentation are necessary as described below.

#### 5.2 Hammering

Hammering is the use of any tool that fragments rock using a percussion hammer. Two common pieces of construction equipment used in hammering are hand held jack-hammers and hydraulic breakers attached to excavators (referred to as a "hammer hoe").

Hand held jack-hammers can be useful for fragmenting pavement, concrete, or rock. However, they are only practical for small amounts of rock removal because the process is labor intensive and has limited percussive strength. Hydraulic breakers are more useful in fragmenting rock due to the increased size, efficiency, and power. Rock removal progress for hydraulic breakers is generally slow for large amounts of rock.

Hammer hoe or jack-hammer operations require planning and execution of applicable precautionary measures. Initially, all adjacent utilities must be verified and protected, including Algonquin pipelines and facilities. Fortunately, the rock immediately adjacent to existing utilities would have already been removed during their installation. Proper Personal Protective Equipment ("PPE") including hearing protection, breathing protection, and eye protection in conjunction with standard PPE will be required. Hand signals or other alternative plans/methods must be used to mitigate complications with heightened noise and dust levels.

#### 5.3 Drilling

Drilling will be integral to achieving proper bedrock fragmentation. Two main types of rock drills may be used during construction. The primary rock drilling equipment will be an excavator mounted drill. The second possible piece of equipment is a crawler drill, which is a mobile rock drill. These machines use a rotating drill bit as well as a percussive force to create a cylindrical hole within the bedrock. The fragmented rock is then flushed out of the hole by an air compressor within the drill.



These drilling machines are integral in creating a hole within rock for blasting, as they are both quick and efficient. However, the drilling machines can also drill a formation of holes to weaken the rock. When the rock is properly drilled, hammering or ripping may then be attempted to fragment the rock. While this approach is typically the most successful form of mechanical removal, the approach still has several limitations. It increases the number and variety of equipment running at the job site to maximize the progress from this method. Production is much slower than if blasting was used. As with other mechanical methods, proper fragmentation of the rock cannot be guaranteed.

#### 5.4 Blasting

Blasting is another method of rock removal that may be utilized. This method is supported by drilling, which is described above. After the hole is drilled, blasting operations are carried out as described within a site-specific blasting plan that addresses all of the specifications below.



#### 6.0 BLASTING PLAN

#### 6.1 Pre-Blast Inspection

As required by the FERC, Algonquin shall conduct pre-blast surveys, with landowner permission, to assess the conditions of structures, wells, springs, and utilities within 150 feet of the proposed construction ROW. Should local or state ordinances require inspections in excess of 150 feet from the work, the more stringent ordinances shall prevail. The survey will include:

- Informal discussions to familiarize the adjacent property owners with blasting effects and planned precautions to be taken on this Project;
- Determination of the existence and location of site specific structures, utilities, septic systems, wells and springs;
- Detailed examination, photographs, and/or video records of adjacent structures and utilities; and
- Detailed mapping and measurement of large cracks, crack patterns, and other evidence of structural distress.
- Sampling of wells or springs will consist of turbidity and bacteriological analysis (total coliform).

The results will be summarized in a condition report that will include photographs and be completed prior to the commencement of blasting.

#### **6.2** Monitoring of Blasting Activities

During blasting, Algonquin contractors will take precautions to prevent damage to adjacent areas and structures. Precautions include:

- Display warning signage, signals, flags, and/or barricades;
- Use of matting or other suitable cover, as necessary;
- Following Federal, State, and Local procedures and regulations for safe storage, handling, loading, firing, and disposal of explosive materials; and
- Staffing existing utilities with Operations personnel during blasting operations.

Blasting will be performed only by state licensed experts (where required) and monitored by experienced blasting inspectors. As appropriate, the effects of each discharge will be monitored at the closest adjacent facilities by seismographs.

#### 6.3 Post-Blast Inspection

To maximize its responsiveness to the concerns of affected landowners, Algonquin will evaluate all complaints of well or structural damage associated with construction activities, including blasting. A toll-free landowner hotline will be established by Algonquin for landowners to use in reporting complaints or concerns. An independent contractor engaged by Algonquin will examine, with landowner permission, the condition of structures, wells, springs, and utilities within 150 feet, or as required by federal, state, or local ordinances, of the construction area after completion of blasting operations to identify any changes in the conditions of these properties or confirm any damages noted by the landowner. Algonquin will conduct pre-blasting yield and quality testing of any well or spring within 150 feet of the blast site, and document these conditions. Like pre-blast inspection, post-blast sampling of wells or springs will consist of turbidity and bacteriological analysis (total coliform). Should any damage or change occur during the blasting operations, Algonquin will coordinate with the landowner to seek corrective action.



#### **6.4** Waterbody Crossing Blasting Procedures

To facilitate planning for blasting activities for waterbody crossings, rock drills or test excavations may be used in waterbodies to test the ditch-line during mainline blasting operations to evaluate the presence of rock in the trench-line. The excavation of the test pit or rock drilling is not included in the time window requirements for completing the crossing. For testing and any subsequent blasting operations, stream flow will be maintained through the site. When blasting is required, the FERC timeframes for completing in-stream construction begin when the removal of blast rock from the waterbody is started. If, after removing the blast rock, additional blasting is required, a new timing window will be determined in consultation with the Environmental Inspector. If blasting impedes the flow of the waterbody, the contractor can use a backhoe to restore the stream flow without triggering the timing window. The complete waterbody crossing procedures are included in the Algonquin's E&SCP.

#### **6.5** Blasting Specifications

The potential for blasting along the pipeline to affect any wetland, waterbody, municipal water supply, waste disposal site, well, septic system, or spring will be prevented by controlled blasting techniques and by using mechanical methods for rock excavation where reasonable. Controlled blasting techniques have also been effectively employed for decades by Algonquin and other companies to protect active utilities.

The following text presents details of Algonquin's procedures for blasting. Ultimately, the contractor is responsible for securing and complying with all necessary permits required for the transportation, storage, and use of explosives. The contractor will also be responsible for following the specifications below.

#### 6.5.1 Pre-requisites for Use of Explosives

Prior to the use of any explosives, the contractor shall submit a blasting procedure and receive Algonquin approval. The blasting procedure shall take into account adjacent pipelines and specific requirements outlined in the Contract Documents and shall include as a minimum:

- Storage of explosives.
- Transportation of explosives.
- Inspection of drilling areas.
- Loading of explosives.
- Non-electric detonation methods. Electric detonation methods are not acceptable.
- Prevention of fly-rock during blasting, including mat placement if used.
- Security procedures.
- Sequence of events leading up the detonation of explosives.
- Proposed hours of blasting.
- True distances to buildings or operating pipelines.
- Maximum charge mass per delay interval.
- Borehole diameters.
- Hole pattern, burden, and spacing.
- Borehole depth, subgrade depth, and unloaded collar length.
- Sketch showing borehole loading details.
- Explosive names, properties, and delay sequences.
- Calculated powder factor (weight per volume of rock), based on explosive energy of 1000 calories per gram.
- Geology description.
- Borehole stemming depth.



- Special conditions or variations for grade rock, trench rock, underwater blasting, and blasting at undercrossings of existing utilities.
- Blast to open face.
- Obtain Algonquin approval and provide a notice of 72 hours prior to detonation of any explosives.
- Obtain approval from Algonquin if the blasting parameters vary from the requirements set out in this specification or the Contract Documents.
- Use of Explosives
- The Contractor shall secure and comply with all the applicable permits required for the handling, transportation, storage, and use of explosives.
- The Contractor shall not endanger life, livestock, or adjacent properties.
- The Contractor shall minimize inconveniences to the property owners or tenants during all phases of blasting.
- The Contractor shall provide physical protection to any above-grade utilities and equipment in the area of the blast.
- Algonquin shall set up required monitoring equipment.
- ◆ The Contractor shall provide monitoring equipment to ensure vibrations are limited to two inches per second (50 mm/s) PPV, when measured at dwellings, buildings, structures, and power line towers. For power line towers, this limit applies to the greatest of the three vectors; otherwise this limit is the vector sum of the three planes. The Contractor limits vibrations to one inch per second (25 mm/s) PPV for vibration-sensitive structures specified by Algonquin. In no case shall vibration amplitude exceed 0.004 in (0.15 mm).
- Any blasting in close proximity to existing in-service piping is to be in accordance with the Contract Documents.
- Charge loading is to be spread in order to obtain the optimum breakage of rock. The Contractor shall attempt to achieve a fragmentation rate of at least 75% of the trench rock to less than 6 in (150 mm) in diameter.
- All delay connectors used shall have a delay interval of at least seventeen milliseconds.
- There are to be no loaded holes left overnight, and the site is inspected after each blast for any undetonated charges.

The Contractor shall discuss the blasting plan with Algonquin prior to each blast, including the maximum charge weight per delay, hole sizes, spacing, depths and layout. Algonquin will employ a qualified Blasting Inspector to confirm and document that the Contractor is following the approved blasting plan at each blast site. Upon completion of blasting each day, the Contractor shall provide Algonquin with the following for each blast:

- Blasting Contractor license number.
- Date, time, and location of blast.
- Hole sizes, spacing, depths, layout, and volume of rock in blast.
- Delay type, interval, total number of delays, and holes per delay.
- Explosive type, specific gravity, energy release, weight of explosive per delay, and total weight of explosive per shot.
- Powder factor.
- Copies of any seismographic data

#### 6.5.2 Evaluation of Close-In Blasts

The following additional limitations apply for blasting at distances of less than 25 feet from the pipeline. These criteria were extrapolated from a 1970 U.S. Bureau of Mines Study ("USBOM") on cratering in granite, and refined based on a 2004 failure investigation. Other blasting limitations based upon



extensive research by the Pipeline Research Committee International ("PRCI"), blasting consultants, and the USBOM regarding blasting adjacent to pipelines is also included in the Spectra Energy blasting criteria.

#### 6.5.3 Blasting on Pipeline Right-of-Way

Blasting should not be allowed on the pipeline right-of-way except when conducted for the benefit of the Company and under the supervision of a Company representative or qualified Blasting Inspector familiar with the Company's blasting requirements.

#### 6.5.4 Minimum Offset From Blast Holes to Pipeline

No blast holes should be loaded at an offset of less than 25 feet from the centerline of an in-service pipeline except in cases where precise measurements are taken to ensure that the pipeline will have at least one foot of clearance from the theoretical area surrounding the blast hole in which the ground could be permanently deformed by the blast under worst case conditions. This theoretical area is a conical shape originating at the bottom of the blast hole and extending out at an angle up to the ground surface.

When blast holes are angled from the vertical, this can have the effect of directing the disruption from the blast in one direction (the surface acts as a free face, allowing movement in that direction). For this reason, blast holes within 25 feet of an existing pipeline must be drilled vertically or angled away from the pipeline as the hole gets deeper.

In all cases, the absolute minimum horizontal offset from the blast hole to the side of the pipe is 12 feet.





### **APPENDIX A**

# SHALLOW BEDROCK LOCATIONS ALONG THE AIM PIPELINE FACILITIES





	Areas Wi	th Bedrock Le	ess than 6	60 inches Below	Grade by MP		
Bedrock Contact Type	Overburden Material	Range of Slope (%)	Soil Map Unit	Beginning Milepost	Ending Milepost	Approximate Crossing Length (ft) <u>b</u> /	Depth - Bedrock (inches) <u>g/</u>
NEW YORK							
Haverstraw to St	ony Point Take-up and Rel	ay					
Lithic	Till	15-30	CkD	1.19	1.49	1597.81	0
Lithic	Till	15-25	CoD	1.49	1.57	423.35	20
Stony Point to Yo	orktown Take-up and Relay	<u>'</u>					
Lithic	Till	15-25	CoD	0.31	0.36	279.84	0
Lithic	Till	15-25	CkD	0.36	0.41	269.28	0
Lithic	Till	8-15	CkC	0.41	0.51	522.72	0
Lithic	Till	15-25	CkD	0.72	1.29	3041.28	0
Lithic	Till	25-45	HIF	1.29	1.36	359.04	20
Lithic	Till	15-25	CkD	1.36	2.12	3970.56	0
Lithic	Till	15-25	CkD	2.79	3.14	1832.16	0
Lithic	-	0-45	Pv	4.06	4.13	390.72	0
Lithic	-	0-45	Pv	4.17	4.47	1610.40	0
Lithic	Till	15-25	CuD	4.87	4.92	279.84	20
Lithic	Till	15-25	CuD	5.44	5.52	464.64	20
Lithic	Till	15-25	CuD	5.64	5.65	89.76	20
Lithic	Till	15-25	CuD	5.98	5.98	10.56	20
Lithic	Till	8-15	CtC	6.32	6.41	469.92	0
Lithic	Till	15-25	CuD	6.41	6.48	327.36	20
Lithic	Till	15-25	CuD	6.50	6.56	332.64	20
Lithic	Till	15-25	CuD	6.72	6.74	142.56	20
Lithic	Till	15-25	CuD	6.79	6.82	153.12	20
Lithic	Till	15-25	CuD	6.99	7.01	84.48	20
Lithic	Till	8-15	CtC	7.01	7.10	448.80	20
Lithic	Till	15-25	CuD	7.10	7.31	1135.20	20
Lithic	Till	8-15	CtC	7.31	7.35	221.76	20
Lithic	Till	15-25	CuD	7.49	7.53	211.20	20
Lithic	Till	8-15	CtC	7.56	7.65	443.52	20
Lithic	Till	15-25	CuD	8.05	8.12	374.88	20
Lithic	Till	8-15	CtC	8.12	8.13	36.96	20
Lithic	Till	8-15	CtC	8.38	8.43	258.72	20
Southeast to ML\	/ 19 Take-Up & Relay	•					
Lithic	Till	8-15	SgC	0.00	0.02	124.71	0



	Areas Wi	th Bedrock Le	ess than 6	60 inches Below	Grade by MP		
Bedrock Contact Type	Overburden Material	Range of Slope (%)	Soil Map Unit	Beginning Milepost	Ending Milepost	Approximate Crossing Length (ft) <u>b</u> /	Depth - Bedrock (inches) <u>g/</u>
CONNECTICUT							
Southeast to ML\	/ 19 Take-Up & Relay						
Lithic	Ablation till	15-45	73E	0.34	0.36	98.59	24
Lithic	Ablation till	15-25	73E	0.38	0.41	187.92	24
Lithic	Ablation till	15-25	73E	2.01	2.04	147.56	24
Lithic	Ablation till	15-45	73E	2.10	2.20	493.86	24
Lithic	Ablation till	15-45	73E	2.23	2.27	240.41	24
Lithic	Till	15-45	60D	2.31	2.38	358.28	20
Lithic	Till	15-45	60D	2.96	3.00	208.58	20
Lithic	Ablation till	15-45	75E	3.76	3.81	260.95	0
Lithic	Ablation till	15-45	73E	4.27	4.30	199.72	24
E-1 System Later	al Take-up & Relay						
Lithic	Ablation till	15-45	73E	0.47	0.51	237.36	24
Lithic	Till	15-25	60D	1.12	1.25	674.62	20
Lithic	Ablation till	15-45	75E	5.04	5.25	1,115.62	0
Lithic	Till	15-25	60D	5.77	5.78	58.57	20
Lithic	Ablation till	3-15	75C	6.20	6.21	72.84	15
Lithic	Ablation till	15-45	75E	6.21	6.33	604.85	0
Lithic	Ablation till	3-15	75C	6.33	6.40	369.84	15
Lithic	Ablation till	15-45	75E	6.40	6.43	148.77	0
Lithic	Ablation till	3-15	75C	6.43	6.48	266.02	15
Lithic	Ablation till	15-45	75E	6.48	6.57	468.02	0
Lithic	Ablation till	3-15	75C	6.57	6.59	139.14	15
Lithic	Ablation till	15-45	75E	6.59	6.66	384.06	0
Lithic	Ablation till	15-45	73E	6.82	6.86	242.16	24
Lithic	Ablation till	15-45	73E	6.92	6.95	134.46	24
Lithic	Ablation till	15-45	73E	6.98	7.06	405.85	24
Lithic	Ablation till	15-45	75E	8.12	8.17	303.27	0
Lithic	Ablation till	15-45	73E	8.23	8.27	221.70	24
Lithic	Ablation till	3-15	75C	8.27	8.28	39.24	15
Lithic	Ablation till	15-45	73E	8.52	8.55	180.29	24



	Areas Wit	th Bedrock Le	ess than (	60 inches Below (	Grade by MP		
Bedrock Contact Type	Overburden Material	Range of Slope (%)	Soil Map Unit	Beginning Milepost	Ending Milepost	Approximate Crossing Length (ft) <u>b</u> /	Depth - Bedrock (inches) <u>g/</u>
E-1 System Loop							
Lithic	Ablation Till	15-45	75E	0.61	0.70	475.20	0
Lithic	Ablation Till	15-45	73E	0.70	0.77	332.64	24
Lithic	Ablation Till	15-45	75E	0.81	0.84	147.84	0
Lithic	Ablation Till	3-15	75C	0.84	0.88	211.2	15
Lithic	Ablation Till	15-45	75E	0.88	0.99	601.92	0
Lithic	Ablation Till	3-15	75C	0.99	1.03	195.36	15
Lithic	Ablation Till	15-45	75E	1.03	1.06	163.68	0
Lithic	Ablation Till	3-15	75C	1.06	1.17	570.24	15
Lithic	Ablation Till	3-15	75C	1.19	1.24	285.12	15
Lithic	Ablation Till	15-45	75E	1.24	1.31	380.16	0
MASSACHUSETT	rs						
West Roxbury Pi	peline Lateral						
Lithic	Ablation till	3-15	104C	3.84	4.24	2,120.64	20
Lithic	-	0-45	601	4.24	4.27	119.37	0
Lithic	Ablation till	3-15	104C	4.27	4.37	549.20	20
Lithic	-	0-45	601	4.37	4.40	180.82	0
Lithic	Ablation till	3-15	104C	4.40	4.49	442.32	20
Lithic	Ablation till	3-15	630C	4.49	4.73	1,268.16	20
Lithic	Ablation till	3-15	104C	4.73	4.98	1,351.51	20
Lithic	Ablation till	3-15	630C	4.98	5.06	389.26	20

a/ For soil map units including areas of Udorthents and Urban Land, NRCS data did not specify a slope range. A slope range of 0 to 8 % was assigned to these developed areas.

b/ Soil crossing lengths were simplified by rounding to the nearest whole number. The crossing lengths may differ slightly from actual lengths due to rounding. No soil data is provided between MP 2.62 and MP 4.94 as the route across the Hudson River has not been determined at this time.

c/ Water erosion potential was determined by averaging the K factor values of horizons of each soil type. Based on the average K factor, each soil type was grouped into a water erosion class of "Low", "Moderate", and "High". Refer to Section 7.3.1.1.

d/ WEGs were obtained from the NRCS Soil Data Mart. WEGs range from one to eight, with one being the highest potential for wind erosion, and eight the lowest. Refer to Section 7.3.1.2.

e/ "Urban Land" and "Udorthents" map units do not have a NRCS designated hydric soil status. These map units were considered to be non-hydric soils. Map units comprised of complexes of hydric and non-hydric soil types were considered to be partially hydric.

f/ Compaction potential was determined by drainage class. High compaction potential includes very poorly drained and poorly drained soils, moderate compaction potential includes somewhat poorly drained to moderately well drained soils, and low compaction potential includes well drained soils.

g/ Depth to bedrock is not defined by the NRCS for the "Pavement and Buildings" map unit. A depth to bedrock of >60" was assigned, which is consistent with NRCS designations for other natural and fill soils in the AIM Project area.

h/ The ability of soils within the AIM Project area to support successful revegetation were determined by evaluating range of slope, erosion potential, drainage class, and presence of fill materials. Refer to Section 7.3.5.

i/ Drainage class abbreviations are as follows: VPD, very poorly drained; PD, poorly drained; MWD, moderately well drained; WD, well drained; ED, excessively drained.

# APPENDIX F PUBLIC ROADS AND RAILROADS CROSSING TABLE

### APPENDIX F

TABLE F-1					
	Public Roads and Railroads Cros	ssed by the AIN	/l Project		
Facility, County, State, Milepost	Roadway	Road Surface	Municipality	Proposed Construction Method	
Haverstraw to Stony Po	oint Take-up and Relay				
Rockland County, NY	,				
0.30	Call Hollow Road	Paved	Haverstraw	Open cut	
0.49	Wolf Road	Paved	Haverstraw	Open cut	
1.02	Call Hollow Road	Paved	Haverstraw	Open cut	
1.18	Willow Grove Road	Paved	Stony Point	Open cut	
1.54	Irish Mountain Court	Paved	Stony Point	Open cut	
2.17	Palisades Interstate Parkway (inbound and outbound)	Paved	Stony Point	Bore	
2.26	Pierce Drive	Paved	Stony Point	Open cut	
2.39	Zachary Taylor Street/Pierce Drive intersection	Paved	Stony Point	Open cut	
2.46	Pyngyp Road	Paved	Stony Point	Open cut	
2.97	Gate Hill Road (Highway 210)	Paved	Stony Point	Open cut	
3.00	Cedar Flats Road	Paved	Stony Point	Open cut	
Stony Point to Yorktow	n Take-up and Relay				
Rockland County, NY	,				
0.44	Bulson Town Road (Route 65)	Paved	Stony Point	Open cut	
0.70	Franck Road	Paved	Stony Point	Open cut	
1.38	Soluri Lane	Paved	Stony Point	Open cut	
1.64	Soluri Lane	Paved	Stony Point	Open cut	
2.14	Route 53/Buck Berg Mountain Road	Paved	Stony Point	Open cut	
2.38	Mott Farm Road (Route 118)	Paved	Stony Point	Open cut	
2.95	Highway 9W (N. Liberty Drive)	Paved	Stony Point	Open cut	
2.97	West Shore Drive	Paved	Stony Point	Open cut	
3.14	Railroad	Railroad	Stony Point	Bore	
Westchester County,	NY				
3.94	9 <sup>th</sup> Street	Paved	Cortlandt	Open cut	
4.50	Lafarge Entrance Road	Paved	Cortlandt	Open cut	
4.77	Broadway Street	Paved	Cortlandt	Bore	
5.52	Bleakley Avenue	Paved	Cortlandt	Open cut	
5.71	Metro North Railroad	Railroad	Cortlandt	Bore	
5.76	Route 9A	Paved	Cortlandt	Open cut	
5.83	Beloch Avenue (entrance extension to Route 9 from Route 9A)	Paved	Cortlandt	Bore	
5.84	Briarcliff Peekskill Parkway (Route 9) (inbound and outbound)	Paved	Cortlandt	Bore	
5.87	Reynolds Hills	Paved	Cortlandt	Bore	
6.31	Pine Lane	Paved	Cortlandt	Open cut	
6.42	Boulder Drive	Paved	Cortlandt	Open cut	
6.68	Washington Street	Paved	Cortlandt	Open cut	
8.43	Montrose Station Road	Paved	Cortlandt	Open cut	
8.43	Maple Avenue	Paved	Cortlandt	Open cut	
9.05	Benjamin Lane	Paved	Cortlandt	Open cut	
9.21	Dimond Avenue	Paved	Cortlandt	Open cut	

### APPENDIX F (cont'd)

TABLE F-1 (cont'd)					
	Public Roads and Railroads Cros	ssed by the AIN	/I Project		
Facility, County, State, Milepost	Roadway	Road Surface	Municipality	Proposed Construction Method	
9.39	Cordwood Road	Paved	Cortlandt	Open cut	
9.61	Forest Avenue	Paved	Cortlandt	Open cut	
9.79	Rick Lane	Paved	Cortlandt	Open cut	
10.01	Justin Court	Paved	Cortlandt	Open cut	
10.17	Peachtree Drive	Paved	Cortlandt	Open cut	
10.27	Croton Avenue	Paved	Cortlandt	Open cut	
10.49	Crompond Road (Route 35 & 202)	Paved	Cortlandt	Bore	
10.69	Baron De Hirsh Road	Paved	Cortlandt	Open cut	
11.02	Lexington Avenue	Paved	Cortlandt	Open cut	
outheast to MLV-19 Tak	ке-up and Relay				
Fairfield County, CT					
0.31	Sawmill Road	Paved	Danbury	Open cut	
0.41	Reserve Road	Paved	Danbury	Open cut	
0.58	Matrix Corp. Road	Paved	Danbury	Open cut	
0.88	Reserve Road	Paved	Danbury	Open cut	
1.21	Union Carbide Road	Paved	Danbury	Open cut	
1.27	Service Road	Paved	Danbury	Open cut	
1.52	Old Ridgebury Road (Overpass)	Paved	Danbury	HDD inclusive	
1.57	Interstate 84 (2A-2B) inbound and outbound	Paved	Danbury	HDD inclusive	
1.84	Housatonic Railroad	Railroad	Danbury	HDD inclusive	
1.98	Mill Plain Road (Route 202 & 6)	Paved	Danbury	HDD inclusive	
2.40	Driftway Road	Paved	Danbury	Open cut	
2.76	University Boulevard	Paved	Danbury	Open cut	
3.21	Chelsea Drive	Paved	Danbury	Open cut	
3.35	Middle River Road/Filmore Avenue/Westville Road intersection	Paved	Danbury	Open cut	
3.47	Topfield Road	Paved	Danbury	Open cut	
3.86	Franklin Street Extension	Paved	Danbury	Open cut	
4.21	Kohanza Street	Paved	Danbury	Open cut	
4.31	Overlook Terrace	Paved	Danbury	Open cut	
4.42	Clapboard Ridge Road (Route 39)	Paved	Danbury	Open cut	
-1 System Lateral Take-	-up and Relay		·		
New London County, C	СТ				
0.86	Chappell Road	Paved	Lebanon	Open cut	
1.92	Exeter Road (Route 207)	Paved	Lebanon	Bore	
5.81	Railroad	Railroad	Franklin	Bore	
6.01	Meeting House Hill Road	Paved	Franklin	Bore	
7.36	Windham Turnpike (Route 32)	Paved	Franklin	Bore	
8.52	Wisconsin Avenue	Paved	Norwich	Open cut	
ine-36A Loop Extension				- F	
Middlesex County, CT					
1.24	Maine Street (State Route 99)	Paved	Cromwell	Open cut	
-1 System Lateral Loop	•	. 2.00	2.0	- poi . out	
New London County, 0					
0.02	Fitch Hill Road	Paved	Montville	Open cut	

# APPENDIX F (cont'd)

TABLE F-1 (cont'd)					
	Public Roads and Railroads Cros	ssed by the A	AIM Project		
Facility, County, State, Milepost	Roadway	Road Surface	Municipality	Proposed Construction Method	
West Roxbury Lateral <sup>a</sup>				<u> </u>	
Norfolk County, MA					
0.17	East Street	Paved	Dedham	Bore	
0.45	Route 1 & Interstate 95/Route 128 (inbound and outbound)	Paved	Dedham	Bore	
0.53	Allied Drive (and through large parking lot)	Paved	Dedham	Open cut	
0.62	Railroad	Railroad	Dedham	Bore	
0.63–0.87	In and along Rustcraft Road/Elm Street	Paved	Dedham	In-road	
0.88	Robinwood Road (along Rustcraft Road/Elm Street)	Paved	Dedham	In-road	
0.89–1.16	In and along Elm Street	Paved	Dedham	In-road	
1.17–1.37	In Providence Highway	Paved	Dedham	In-road	
1.37–1.52	In several parking lots and access roads alongside Providence Highway	Paved	Dedham	In-road	
1.40	Legacy Boulevard	Paved	Dedham	In-road	
1.52-2.42	In Providence Highway	Paved	Dedham	In-road	
2.23	Jade Lane (along Providence Highway)	Paved	Dedham	In-road	
2.35	Eastern Avenue (along Providence Highway)	Paved	Dedham	In-road	
2.57	Harris Street/High Street and parking lot	Paved	Dedham	Open-Cut	
2.59–3.01	In and along East Street	Paved	Dedham	In-road	
3.05	Washington Street	Paved	Dedham	Open-Cut	
3.06–3.13	In and along Eastbrook Road	Paved	Dedham	In-road	
3.14–3.20	In and along Post Lane/Lower East Street	Paved	Dedham	In-road	
3.20–3.44	In and along Washington Street	Paved	Dedham	In-road	
3.31	Sumner Street (along Washington Street)	Paved	Dedham	In-road	
3.35	Willis Street (along Washington Street)	Paved	Dedham	In-road	
Suffolk County, MA	In and along Machineton Chroat	Davis	West Davis, Destan	l	
3.44–3.76 3.52	In and along Washington Street Tobin Road (along Washington Street)	Paved Paved	West Roxbury, Boston West Roxbury, Boston	In-road In-road	
3.66	Stimson Street (along Washington Street)	Paved	West Roxbury, Boston	In-road	
3.76-4.36	In and along Grove Street	Paved	West Roxbury, Boston	In-road	
3.93	Freeman Avenue (along Grove Street)	Paved	West Roxbury, Boston	In-road	
3.96	Birch Road (along Grove Street)	Paved	West Roxbury, Boston	In-road	
4.01	Altair Road (along Grove Street)	Paved	West Roxbury, Boston	In-road	
4.19	Grove Terrace (along Grove Street)	Paved	West Roxbury, Boston	In-road	
4.36–5.11	In and along Centre Street	Paved	West Roxbury, Boston	In-road	
4.49	Glenhaven Road (along Centre Street)	Paved	West Roxbury, Boston	In-road	

# APPENDIX F (cont'd)

	Public Roads and Railroads Cros	sed by the <i>i</i>	AIM Project	
Facility, County, State, Milepost	Roadway	Road Surface	Municipality	Proposed Construction Method
4.55	Baker Street/Centre Lane (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.62	Wedgemere Road (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.66	Woodbrier Road (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.70	Bronx Road/Centre Terrace (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.73	Acacia Road (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.82	Cass Street (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.93	Autumn Street (along Centre Street)	Paved	West Roxbury, Boston	In-road
4.99	Alaric Street (along Centre Street)	Paved	West Roxbury, Boston	In-road
5.07-5.11	In and along Spring Street	Paved	West Roxbury, Boston	In-road
5.11-5.14	In and along St. Theresa Avenue	Paved	West Roxbury, Boston	In-road

# APPENDIX G TRAFFIC MANAGEMENT PLANS

Traffic Management Plan New York Pipeline Segments



# Algonquin Gas Transmission, LLC

# ALGONQUIN INCREMENTAL MARKET PROJECT

Traffic Management Plan New York Pipeline Segments

**May 2014** 



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## 1.0 INTRODUCTION

Algonquin Gas Transmission, LLC ("Algonquin"), an indirect, wholly-owned subsidiary of Spectra Energy Partners, LP, is seeking authorization from the Federal Energy Regulatory Commission ("FERC" or "Commission") pursuant to Section 7(c) of the Natural Gas Act<sup>1</sup> ("NGA") to construct, install, own, operate, and maintain the Algonquin Incremental Market Project ("AIM Project" or "Project") which will involve expansion of its existing pipeline systems located in New York, Connecticut, Rhode Island and Massachusetts.

In New York, Algonquin will take-up and relay approximately 3.3-miles of mainline pipeline located upstream (southwest) of the existing Stony Point Compressor Station in Rockland County, New York (*Haverstraw to Stony Point Take-up & Relay*). The installation of the new 42-inch pipeline will begin at the existing Algonquin Mainline Valve Site ("MLV") 13B (MP 0.0) located west of Call Hollow Road in the Town of Haverstraw and end at the Stony Point Compressor Station located northeast of Cedar Flats Road in the Town of Stony Point (MP 3.3).

Downstream (northeast) of the Stony Point Compressor Station, Algonquin will construct approximately 12.3 miles of 42-inch diameter mainline pipeline in the Towns of Stony Point and Cortlandt (including the Hamlet of Verplanck and the Village of Buchanan), the City of Peekskill, and the Town of Yorktown (*Stony Point to Yorktown Take-up & Relay*). This pipeline section includes two segments of take-up and relay pipeline construction and one section of pipeline construction within a new permanent ROW across the Hudson River.

In response to comments from the FERC, landowners and other stakeholders, Algonquin has retained Hatch Mott MacDonald, NY LLC. ("HMM") to provide traffic engineering consulting services in support of the proposed Project facilities in New York. Algonquin is committed to working with each municipality along the Project limits to address potential transportation-related impacts associated with constructing the proposed pipeline. This document includes a summary of roadways where the construction will take place and information regarding general traffic management strategies. Based on the research conducted to date, this report summarizes the currently proposed construction schedule, hours of operation, and provides representative traffic management plans that will be implemented during construction.

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<sup>&</sup>lt;sup>1</sup> 15 U.S.C. § 717f(c) (2006).



### 2.0 PROJECT DESCRIPTION

The projected in-service date of the AIM Project is November 2016. Construction of the Project pipeline facilities, new M&R stations, and modifications to the Algonquin's existing compressor stations and M&R stations is expected to occur over a 1½ year period to accommodate multiple work locations and the need for scheduled system outages for the numerous tie-ins along the existing system. The work is scheduled to start in the 1<sup>st</sup> Quarter of 2015 and be completed by October 2016.

Table 2-1 provides a preliminary construction schedule.

TABLE 2-1								
Preliminary Construction Schedule for AIM Project Facilities in New York								
Facilities	Start	Finish	Length (miles)					
PIPELII	NE FACILITIES							
Mainline Take-up & Relay <u>a</u> /	March 2016	Oct. 2016	12.8					
Horizontal Directional Drill/New Pipe <u>b</u> /								
Hudson River	March 2015	Oct. 2015	2.9					
ABOVEGR	OUND FACILITIES							
Existing Compressor Station Modifications								
Stony Point <u>c</u> /	March 2016	Oct. 2016	N/A					
Southeast <u>c</u> /	March 2016	Oct. 2016	N/A					
Existing M&R Station Modifications								
Stony Point M&R Station	April 2016	Oct. 2016	N/A					
Peekskill M&R Station	April 2015	Oct. 2015	N/A					
Cortlandt M&R Station	April 2016	Oct. 2016	N/A					

#### Notes:

To expedite the completion of the Project, weekday working hours between 7 AM and 7 PM are desirable. However, Algonquin recognizes that these hours may not be possible for all portions of the Project due to traffic management in consideration of abutting residential and commercial properties, and that night working hours may be required. The exact timeframe for the completion of the Project is dependent on weather conditions, extent of restricted work hours and other factors. For construction planning purposes, the Project is being viewed in eighteen distinct sections. To minimize the duration of construction, work may occur simultaneously in multiple areas as three dedicated construction crews are expected to be working on the Project. For each portion of the Project involving work in public roadways traffic management plans will be required to help ensure general public safety and to maintain appropriate traffic flow. In addition to measures to address motor vehicles, considerations also will be made for pedestrians, bicycles, and construction workers. As such, Algonquin will continue to work closely with the various municipalities and public agencies involved, as well as residential and commercial stakeholders that may be affected by the Project.

a/ Certain complex pipeline crossings (e.g., road, streams, railroads) may be constructed during the April – October 2015 construction season. Winter clearing in Nov. 2015 – Feb. 2016 may be necessary to address time of year restrictions.

b/ The length shown for the Hudson River HDD is also included in the total length shown for the mainline take-up and relay.

c/ Civil site work at these two compressor stations will begin in the April - October 2015 time frame.



# 3.0 REPRESENTATIVE TRAFFIC MANAGEMENT PLANS

General traffic management plans have been developed and included as part of this TMP. The plans were developed following standards contained in the Manual on Uniform Traffic Control Devices (MUTCD)<sup>2</sup>, New York State Supplement to the Manual on Uniform Traffic Control Devices, and the New York State Work Zone Traffic Control Standard Details. While not all of the affected roadways are under New York State Department of Transportation ("NYSDOT") jurisdiction, NYSDOT's "Work Zone Traffic Control Standard Details" also were applied to local and residential roadways. These resulting plans are expected to be implemented for the majority of the work areas. The following tables provide a summary of where the attached traffic management plans are applied at each road crossing along the project.

A meeting with the NYSDOT was held on April 14, 2014 to discuss the locations and crossing methods of the proposed AIM Pipeline installations across NYSDOT jurisdictional roadways. The purpose of the meeting was to introduce the AIM Project, discuss pipeline crossing methods, required geotechnical boring work, and license vs. easement options pertaining to pipeline occupation at the road crossings.

The TMP's outlined in this document are being provided to each of the affected municipalities crossed by the proposed AIM Project and will be part of continuing communications.

Table 1: New York Roadways Affected by Construction (Haverstraw to Stony Point)

	MP	Road Name	Road Surface	Proposed Crossing Method	County	Municipality	Typical Detail #
	0.3	Call Hollow Rd.	Paved	Open Cut	Rockland	Haverstraw	TTC DETAILS #1 AND #6
	0.49	Wolf Rd.	Paved	Open Cut	Rockland	Haverstraw	TTC DETAILS #1 AND #6
ay ht)	1.02	Call Hollow Rd.	Paved	Open Cut	Rockland	Haverstraw	TTC DETAILS #1 AND #6
l Relay Point)	1.18	Willow Grove Rd.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
up and Stony	2.26	Pierce Dr.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #5 AND #6
Take up aw to St	2.39	Zachary Taylor St.	Paved	Open Cut	Rockland	Stony Point	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1 AND #6
Mainline Haverstr	2.46	Pyngyp Rd.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
Maii (Hav	2.97	Gate Hill Rd. (HWY .210)	Paved	Open Cut	Rockland	Stony Point	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1 AND #6
	3	Cedar Flats Rd.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6

<sup>&</sup>lt;sup>2</sup> U.S. Department of Transportation Federal Highway Administration, Manual on Uniform Traffic Control Devices, 2009 Edition; Washington DC, December 2009.



Table 2: New York Roadways Affected by Construction (Stony Point to Yorktown)

	MP	Road Name	Road Surface	Proposed Crossing Method	County	Municipality	Typical Detail #
	0.44	Bulson Town Rd. (Rte. 65)	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
	0.7	Franck Rd.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
	1.38	Soluri Ln.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #5 AND #6
	1.64	Soluri Ln.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #5 AND #6
	2.14	Rte. 53/Buck Berg Mountain Rd.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
wn)	2.38	Mott Farm Rd. (Rte. 118)	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
-kto	2.95	Highway 9	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
Yor	2.97	West Shore Dr.	Paved	Open Cut	Rockland	Stony Point	TTC DETAILS #1 AND #6
int to	4.5	Lafarge Entrance Rd.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
(Stony Point to Yorktown)	4.77	Broadway	Paved	Bore	Westchester	Cortlandt	TTC DETAIL # 6
Relay (St	5.52	Bleakley Ave.	Paved	Open Cut	Westchester	Cortlandt	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1, # 4 AND #6
and	5.76	Rte. 9A	Paved	Open Cut	Westchester	Cortlandt	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #2, #3, #4 AND #6
Mainline Take up	5.87	Reynolds Hills	Paved	Bore	Westchester	Cortlandt	TTC DETAIL # 6
l el	6.31	Pine Ln.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
inli	6.42	Boulder Dr.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
Ma	6.68	Washington St.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
	8.43	Montrose Station Rd.	Paved	Open Cut	Westchester	Cortlandt	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1 AND #6
	8.43	Maple Ave.	Paved	Open Cut	Westchester	Cortlandt	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1 AND #6
	9.05	Benjamin Ln.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #5 AND #6
	9.21	Dimond Ave.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #5 AND #6

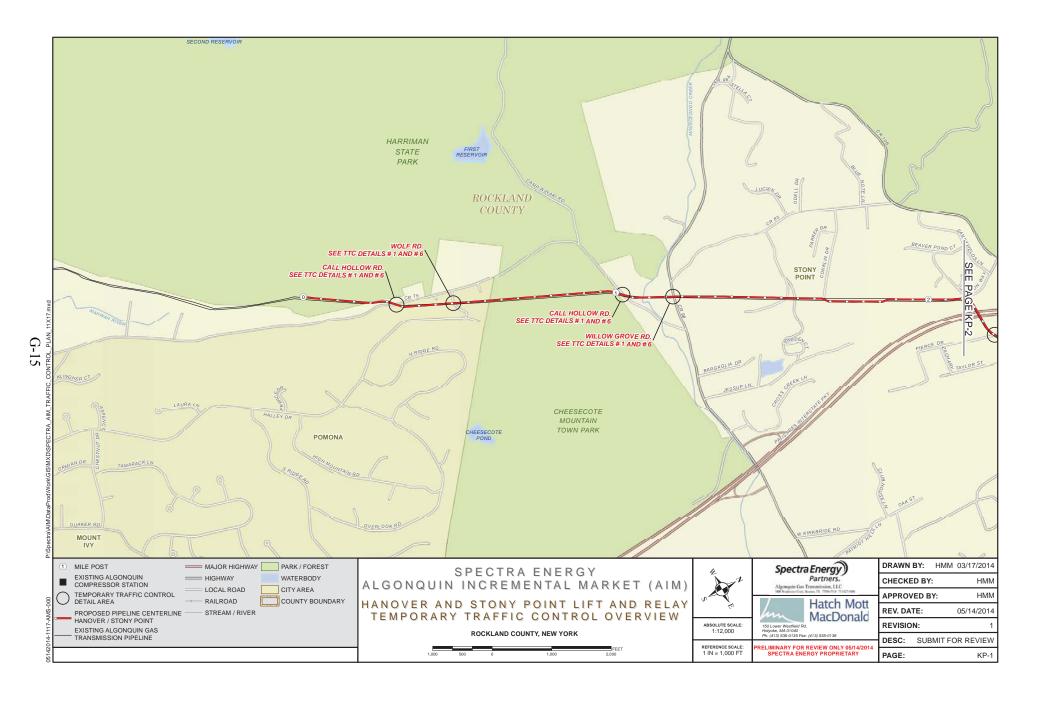


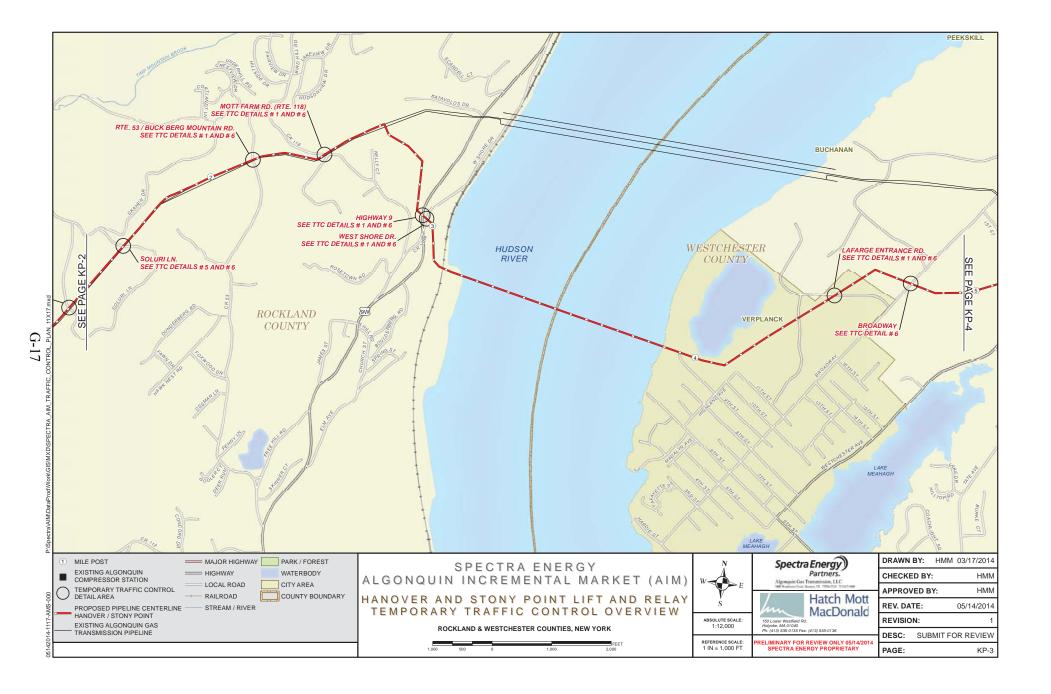
MP	Road Name	Road Surface	Proposed Crossing Method	County	Municipality	Typical Detail #
9.39	Cordwood Rd.	Paved	Open Cut	Westchester	Cortlandt	SITE SPECIFIC DETAIL REQUIRED - MODIFICATION OF TTC DETAILS #1 AND #6
9.61	Forest Ave.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
9.79	Rick Ln.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
10	Justin Ct.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
10.2	Peachtree Dr.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
10.3	Croton Ave.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
10.49	Crompond Rd. (Rt. 35 & 202)	Paved	Bore	Westchester	Cortlandt	TTC DETAIL # 6
10.7	Baron De Hirsh Rd	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
11	Lexington Ave.	Paved	Open Cut	Westchester	Cortlandt	TTC DETAILS #1 AND #6
12.31	Stoney St.	Paved	N/A	Westchester	Cortlandt	TTC DETAIL # 6

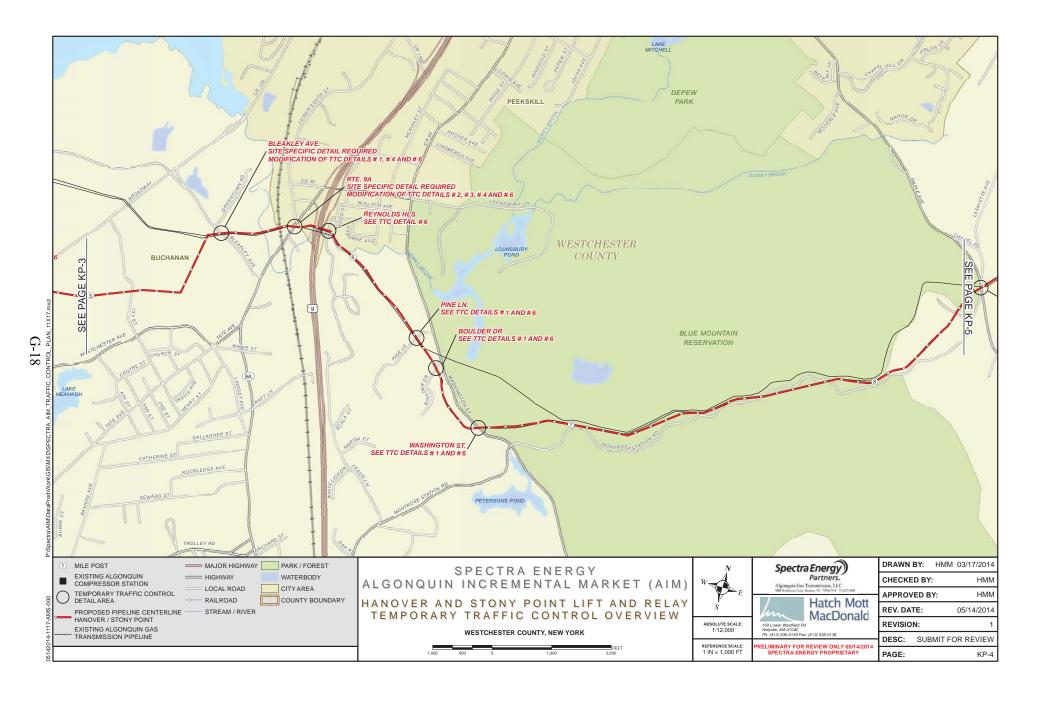


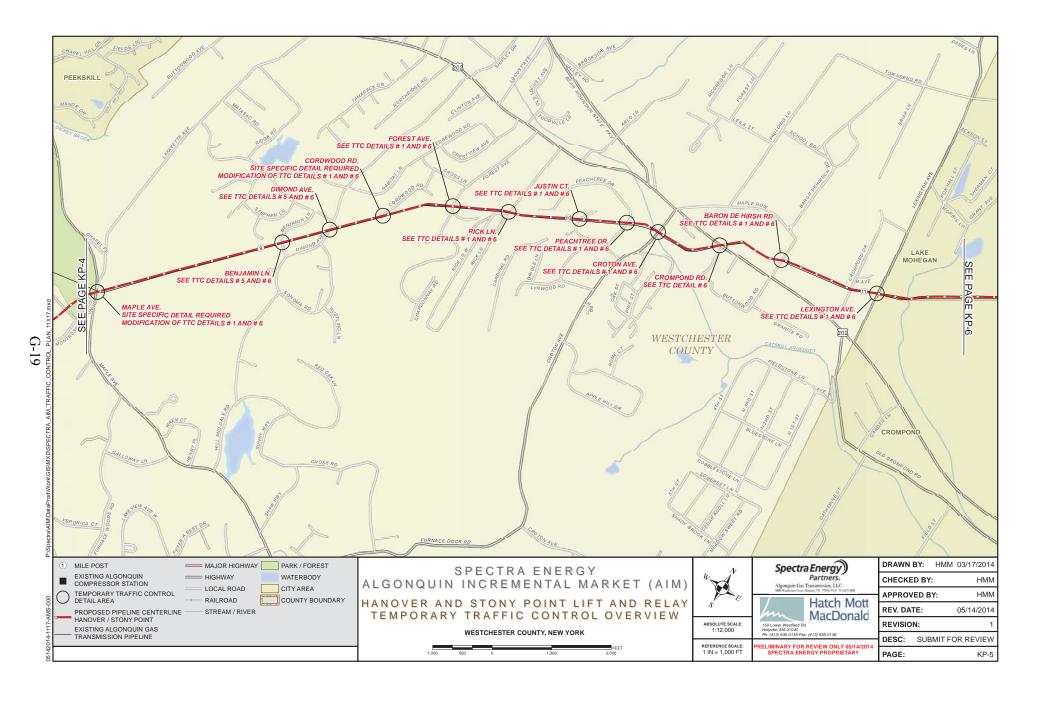
# **ATTACHMENTS**

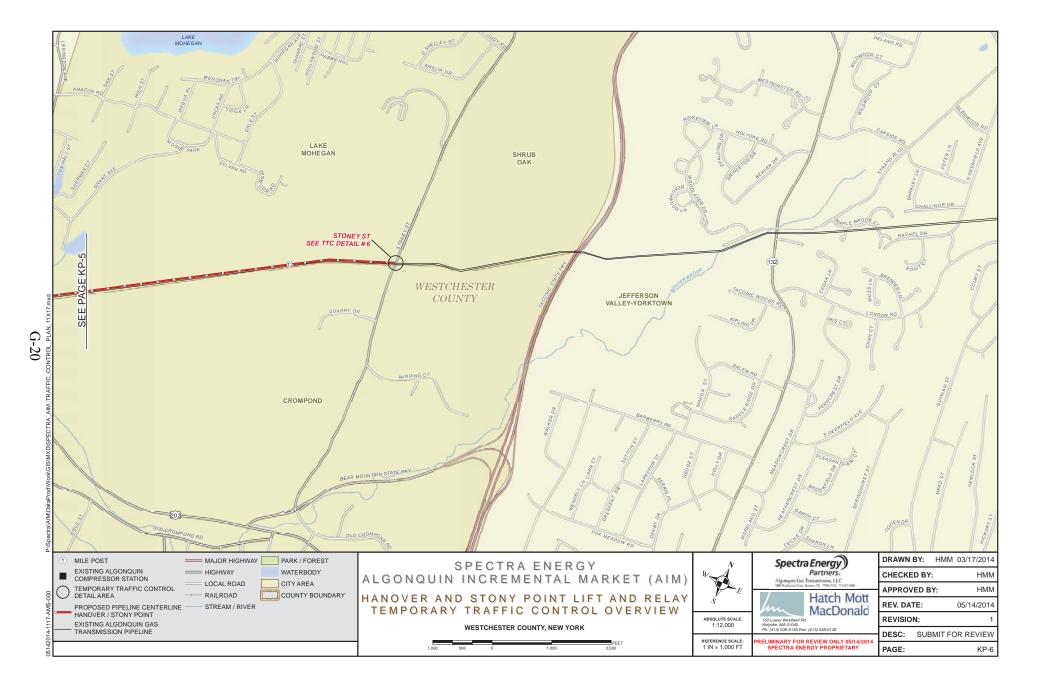
# TRAFFIC MANAGEMENT PLANS











#### TABLE NY1-A BARRIER VEHICLE USE REQUIREMENTS (LONG TERM, INTERMEDIATE TERM, AND SHORT TERM STATIONARY CLOSURES) USE REQUIREMENTS 4,5 NON-FREEWAY EXPOSURE CONDITION 1 CLOSURE TYPE RECONSTRUCTION POSTED SPEED LIMIT) FREEWAY w 45 MPH 35-40 MPH WORKERS ON FOOT OR IN VEHICLES EXPOSED REQUIRED<sup>3</sup> REQUIRED<sup>3</sup> REQUIRED<sup>3</sup> TO TRAFFIC LANE CLOSURE HON-TRAVERSABLE HAZARD (IE. EQUIPMENT, MATERIALS, EXCAVA REQUIRED<sup>3</sup> REQUIRED<sup>3</sup> OPTIONAL<sup>2</sup> NO WORKERS EXPOSE WORKERS ON FOOT OR IN VEHICLES EXPOSED REQUIRED<sup>3</sup> REQUIRED<sup>3</sup> OPTIONAL 2 SHOULDER CLOSURE NON-TRAVERSABLE HAZARD REQUIRED<sup>3</sup> OPTIONAL<sup>2</sup> EXCAVATION ONLY

THE EXPOSURE CONDITIONS DESCRIBED IN TABLE NY1-A ASSUMES THERE IS NO POSITIVE PROTECTION (TEMPORARY TRAFFIC BARRIER) PRESENT. WHERE WORKERS OR HAZARDS ARE PROTECTED BY A TEMPORARY TRAFFIC BARRIER, BARRIER VÉHICLES ARE NOT REQUIRED.

WHERE THE REQUIREMENT IS "OPTIONAL", EITHER A BARRIER VEHICLE OR THE STANDARD LONGITUDINAL BUFFER SPACE (TABLE 6C-2) SHALL BE PROVIDED.

REQUIREMENTS SHALL INCLUDE PROVIDING A SEPARATE BARRIER VEHICLE FOR EACH CLOSED LANE AND EACH CLOSED PAYED SHOULDER 8' OR GREATER IN WIDTH. IF THE WORK SPACE MOVES WITHIN THE STATIONARY CLOSURE, THE BARRIER VEHICLE SHALL BE REPOSITIONED ACCORDINGLY. BARRIER VEHICLES PROTECTING NON-TRANSVERSABLE HAZARDS SHALL REMAIN IN PLACE DURING BOTH WORKING AND NON-WORKING HOURS UNTIL THE HAZARD NO LONGER EXISTS. EXCEPTIONS TO THESE REQUIREMENTS MAY BE MADE. AS APPROVED BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE WHERE BARRIER VEHICLE PLACEMENT WOULD BE INEFFECTIVE OR WOULD INTERFERE WITH THE SAFE

BARRIER VEHICLES ARE NOT REQUIRED FOR MILLING AND/OR PAYING OPERATIONS, BUT THE STANDARD LONGITUDINAL BUFFER SPACE (TABLE 6C-2) SHALL BE PROVIDED.

BARRIER VEHICLES ARE NOT REQUIRED FOR FLAGGING OPERATIONS, BUT THE STANDARD LONGITUDINAL BUFFER SPACE (TABLE6C-2) SHALL BE PROVIDED.

TABLE NY2—A PLACEMENT DISTANCE FOR BARRIER VEHICLES						
PRECONSTRUCTION POSTED	PLACEMENT DISTANCE (FT.) BARRIER VEHICLES*					
SPEED LIMIT	(18000	LBS.)	(24000 LBS.)			
(MPH)	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM		
> 55	100 FT.	200 FT.	100 FT.	200 FT.		
45 - 55	100 FT.	200 FT.	85 FT.	165 FT.		
< 45	85 FT.	165 FT.	50 FT.	100 FT.		

\* AS DEFINED IN NYSDOT STANDARD SPECIFICATION 619:

BARRIER VEHICLE - VEHICLE USED FOR STATIONARY SHOULDER CLOSURES, LANE CLOSURES, AND OTHER STATIONARY WORK ZONES.

MINIMUM DISTANCE SHOWN REFLECTS THE ACTUAL ROLL AHEAD DISTANCE FROM MANUFACTURER.

		BLE 6H-		corre unit (c) Tipon (biotil (i)								
Speed limit (s) (mph)		TAPI (FT.)	ER LENGTH (L )	)	L = TAPER LENGTH W = WORTH OF OFFSET (FT.) S = PRECONSTRUCTION POSTED SPEED LIMIT (MPW)							
(40 MPH) OR	L=	WS <sup>2</sup> /60										
(45 MPH) OR	L=	WS		* = PRECONSTRUCTION POSIED SPEED LIM			OI CLU CHIII	(m n)				
STANDARD TAPER LENGTHS												
LATERAL SHIFT OF TRAFFIC		TEMPORARY TRAFFIC CO				E POSTED	SPEED LIM	IT				
FLOW PATH	(25 MPH)	(30 MPH)	(35 MPH)	(40 MPH)	(45 MPH)	(50 MPH)	(55 MPH)	(60 MPH)	(65 MPH)	(70 MPI		
4	45	60	85	110	180	200	220	240	260	280		
5	55	75	105	135	225	250	275	300	325	350		
6	65	90	125	160	270	300	330	360	390	420		
7	75	105	145	190	315	350	385	420	455	490		
8	85	120	165	215	360	400	440	480	520	560		
9	95	135	185	240	405	450	495	540	585	630		
10	105	150	205	270	450	500	550	600	650	700		
11	115	165	225	295	495	550	605	660	715	770		
12	125	180	245	320	540	600	660	720	780	840		

TABLE NY6H-3 ADVANCE WARNING SIGN SPACING						
	DISTANCE	BETWEEN	SIGNS	SIGN	LEGEND	
ROAD TYPE	A (FT.)	B (FT.)	C (FT.)	XX	ΥY	
URBAN (I 30 MPH*)	100	100	100	AHEAD	AHEAD	
URBAN (35-40 MPH*)	200	200	200	AHEAD	AHEAD	
URBAN (w 45 MPH*)	350	350	350	1000 FT.	AHEAD	
RURAL	500	500	500	1500 FT.	1000 FT.	
EXPRESSWAY / FREEWAY	1000	1500	2640	1 WILE	1/2 MLE	

<sup>\*</sup> PRECONSTRUCTION POSTED SPEED LIMIT

URBAN: (MEETS MORE THAN 1 OF THE FOLLOWING CRITERIA) SIDEWALKS, BICYCLE USAGE, CURBING, CLOSED DRAINAGE SYSTEMS, DRIVEWAY DENSITIES GREATER THAN 24 DRIVEWAYS PER MILE, MINOR COMMERCIAL DRIVEWAY DENSITIES OF 10 DRIVEWAYS PER MILE OR GREATER, MAJOR COMMERCIAL DRIVEWAYS, NUMEROUS RIGHT OF WAY CONSTRAINTS, HIGH DENSITY OF CROSS STREETS, 85TH PERCENTILE SPEEDS OF 45 MPH OR LESS.

RURAL: ANY AREA NOT EXHIBITING MORE THAN ONE OF THE ABOVE CHARACTERISTICS.

EXPRESSWAY: DIVIDED HIGHWAYS FOR TRAFFIC WITH FULL OR PARTIAL CONTROL OF ACCESS AND GENERALLY WITH GRADE SEPARATIONS AT MAJOR CROSSROADS.

FREEWAYS/INTERSTATE: LOCAL OR INTER REGIONAL HIGH-SPEED, DIVIDED, HIGH-VOLUME FACILITIES WITH FULL OR PARTIAL CONTROL OF ACCESS.

table 6C-2 Longitudinal Buffer Space				
PRECONSTRUCTION POSTED Speed limit (MPH)	DISTANCE			
25	155 FT.			
30	200 FT.			
35	250 FT.			
40	305 FT.			
45	360 FT.			
50	425 FT.			
55	495 FT.			
60	570 FT.			
65	645 FT.			

TABLE 6C-3 TAPER LENGTH FOR TEMPORARY TRAFFIC CONTROL ZONES			
TYPE OF TAPER	TAPER LENGTH (L)		
MERGING TAPER	L		
SHIFTING TAPER	L/2		
SHOULDER TAPER	L/3		
ONE-LANE, TWO-WAY TRAFFIC TAPER	100 FT. MAXIMUM		
DOWNSTREAM TAPER	100 FT. PER LANE		

WORK ZONE TRAFFIC CONTROL LEGEND					
SYMBOL	DESCRIPTION				
<b>્</b>	ARROW PANEL				
• •	ARROW PANEL, CAUTION MODE				
<del></del>	ARROW PANEL TRAILER OR SUPPORT				
	CHANNELIZING DEVICE				
ı	DIRECTION OF TEMPORARY TRAFFIC DETOUR				
⇒	DIRECTION OF TRAFFIC				
ĥ	FLAGGER				
Ŷ	FLAG TREE				
ŀ	SIGN, TEMPORARY				
222	TYPE III BARRICADE				
	WORK SPACE				
	WORK VEHICLE WITH TRUCK MOUNTED ATTENUATOR				

SPECTRA ENERGY ALGONQUIN INCREMENTAL MARKET (AIM) HANOVER AND STONY POINT LIFT AND RELAY

> WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES

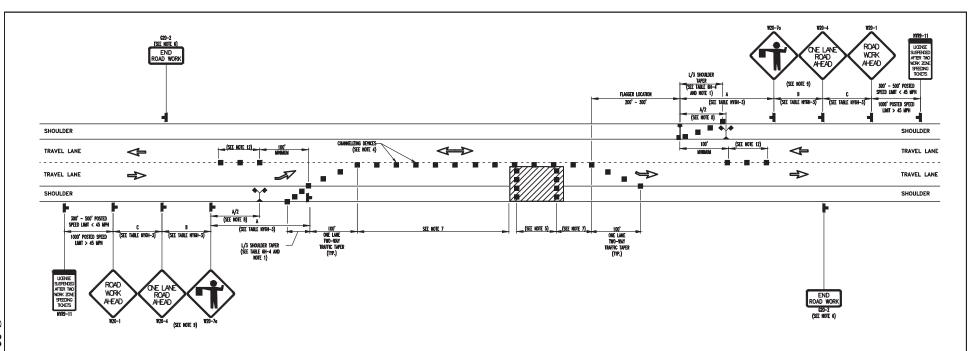
ROCKLAND COUNTY, NEW YORK

SCALE N/A

Spectra Energy) Partners. CHECKED BY: APPROVED BY: Hatch Mott REV. DATE: MacDonald 150 Lower Weetfield Rd. Holyoke, MA 01040 Ph: (413) 535-0135 Fext (413) 535-0136 REVISION: DESC: PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY

DWG:

DRAWN BY: HMM 03/05/2014 НММ НММ ISSUE FOR REVIEW

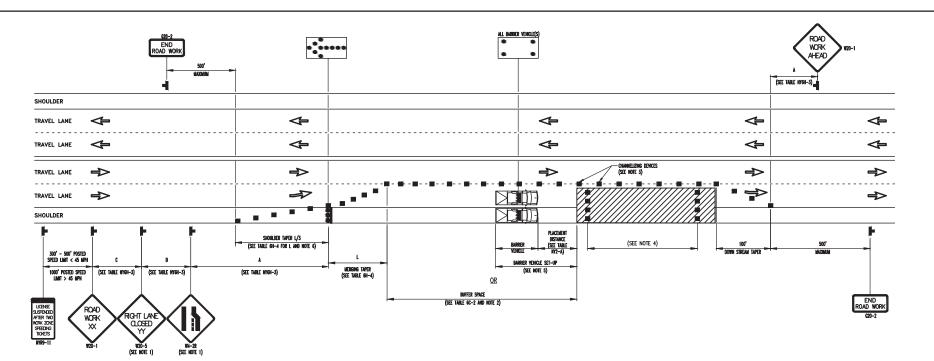


12. CENTERLINE CHANNELIZING DEVICES ARE OPTIONAL AND MAY BE ELIMINATED WHERE SPACE CONSTRAINTS EXIST.

#### NOTE:

- 1. WHEN PAYED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, CHAMMELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK AREA AND 11. ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF. DIRECT VEHICULAR TRAFFIC TO REMAIN IN THE TRAYEL WAY.
- WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED.
  ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE.
- 3. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
- 4. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
- 5. TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER NYSDOT 619 STANDARD SPECIFICATIONS) WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 1500'.
- 6. THE END ROAD WORK SIGN (G20-2) SHALL BE PLACED A MAXIMUM OF 500' PAST THE END OF THE WORK SPACE.
- 7. WHERE DIRECTED BY THE ENGINEER, A BUFFER SPACE SHALL BE PROVIDED IN ORDER TO LOCATE THE ONE-LANE, TWO-WAY TRAFFIC TAPER PRIOR TO ANY HORIZONTAL OR VERTICAL CURVE, IN ORDER TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGERS AND/OR A QUEUE OF STOPPED VEHICLES.
- 8. THE FLAG TREE SHALL BE LOCATED ON THE SHOULDER, AT APPROXIMATELY 1/2 THE DISTANCE BETWEEN THE FLAGGER SIGN (W20-7a) AND THE FLAGGER.
- 9. FLAGGER SIGN (W20-7a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.
- 10. FLAGGER AND FLAG TREE SHALL BE ILLUMINATED TO LEVEL II ILLUMINATION DURING NIGHT TIME OPERATIONS.

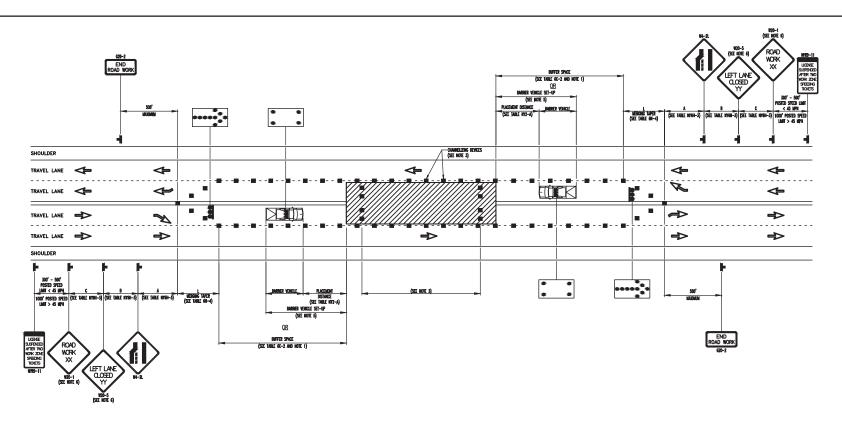
SPECTRA ENERGY		Spectra Energy)	DRAWN BY: HMM 03/05/2014
ALGONQUIN INCREMENTAL MARKET (AIM)		Partners. Algonquin Gas Transmission, LLC	CHECKED BY: HMM
HANOVER AND STORY POINT LIFT AND RELAY TTC DETAIL #1		Hatch Mott	APPROVED BY: 03/05/2014
SHORT OR INTERMEDIATE TERM STATIONARY LANE CLOSURE ON 2-LANE 2-WAY ROADWAY	SCALE N/A	MacDonald 150 Lover Weetfield Rd. 160 John M. 01040 Phr (413) 535-0135	REV. DATE: REVISION:
ROCKLAND COUNTY, NEW YORK		PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY	DESC: ISSUE FORE REVIEW DWG:



#### NOTES

- LEFT LANE CLOSURES ARE SYMMETRICAL TO RIGHT LANE CLOSURES. SUBSTITUTE LEFT LANE CLOSED SIGN (W20-5) AND THE CORRESPONDING LANE ENDS SIGN (W4-21).
- 2. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
- 3. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
- TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER NYSDOT 619 STANDARD SPECIFICATIONS) WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS
  CLOSED FOR A DISTANCE GREATER THAN 1500'.
- FOR BARRIER VEHICLE USE REQUIREMENTS SEE TABLES NY1-A AND NY2-A ON THE STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- 6. WHEN PAYED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND TO DIRECT VEHICULAR TRAFFIC TO REMAIN IN THE TRAYELED WAY.

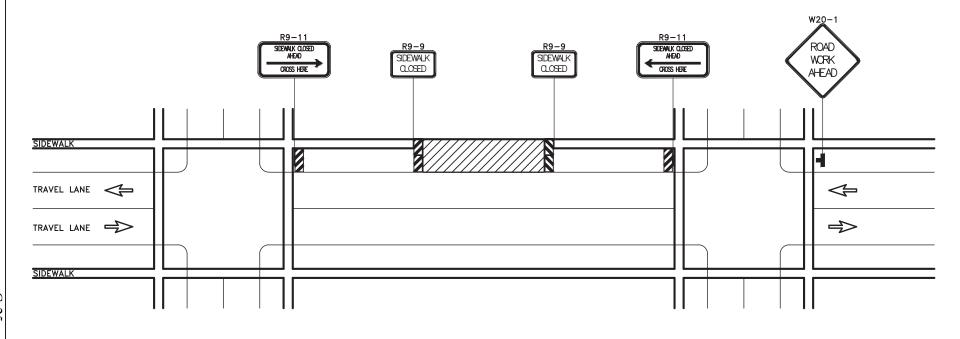
	SPECTRA ENERGY ALGONQUIN INCREMENTAL MARKET (AIM) HANOVER AND STONY POINT LIFT AND RELAY TTC DETAIL #2 SINGLE LANE CLOSURE SHORT OR INTERMEDIATE TERM STATIONARY MULTI LANE HIGHWAY (UNDIVIDED)	SCALE N/A	Algonquin Gas Transmission, LLC Sale Vandana Con James, 12 Transmission, LLC Hatch Mott MacDonald Inco James, 144 19100 Pine (145) 3831-9188	DRAWN BY: HMM 03/05/201. CHECKED BY: HMI APPROVED BY: HMI REV. DATE: REVISION: DESC: ISSUE FOR REVIEW
	ROCKLAND COUNTY, NEW YORK		PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY	DESC: ISSUE FOR REVIEW



#### MOTES:

- 1. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
- 2. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
- 3. TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER NYSDOT 619 STANDARD SPECIFICATIONS) WHEN A PAYED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAIN 1500'.
- 4. FOR LONG DURATION LANE CLOSURES, TEMPORARY PAYEMENT MARKINGS SHALL BE USED IN ACCORDANCE TO THE CONTRACT DOCUMENTS. ANY EXISTING PAYEMENT MARKINGS THAT ARE CONFLICTING OR MISLEADING SHALL BE REMOVED OR COVERED.
- 5. FOR BARRIER VEHICLE USE REQUIREMENTS SEE TABLES NY1-A AND NY2-A ON THE STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- 6. FOR LOW SPEED, LOW VOLUME URBAN STREETS, THE LEFT LANE CLOSED XXX FT. SIGN (W20-5) CAN BE OMITTED AND THE ROAD WORK AHEAD SIGN (W20-1) RELOCATED TO THAT LOCATION.

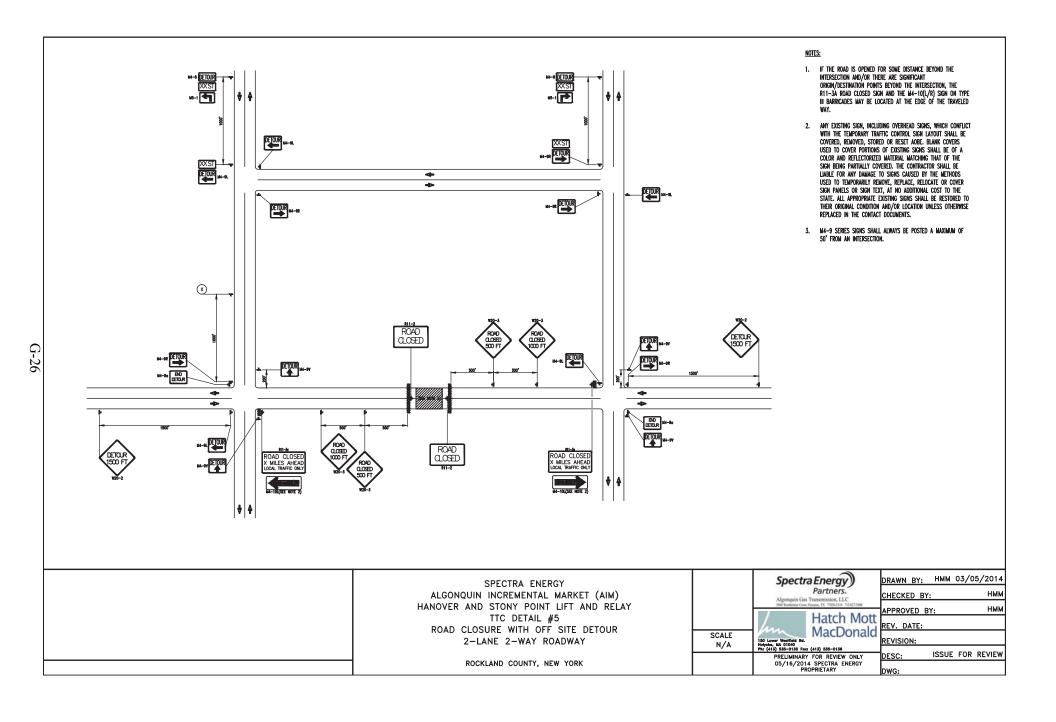
SPECTRA ENERGY ALGONQUIN INCREMNTAL MARKET (AIM) HANOVER AND STONY POINT LIFT AND RELAY TTC DETAIL #3 DOUBLE INTERIOR LANE CLOSURE MULTI LANE HIGHWAY	SCALE N/A	Algonquin Gas Transmission, LLC May Vanhamor Cross Transmission, T. Tree State Value  Hatch Mott MacDonald	DRAWN BY: HMM 03/05/2014 CHECKED BY: HMM APPROVED BY: HMM REV. DATE: REVISION:
ROCKLAND COUNTY, NEW YORK		PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY	DESC: ISSUE FOR REVIEW DWG:

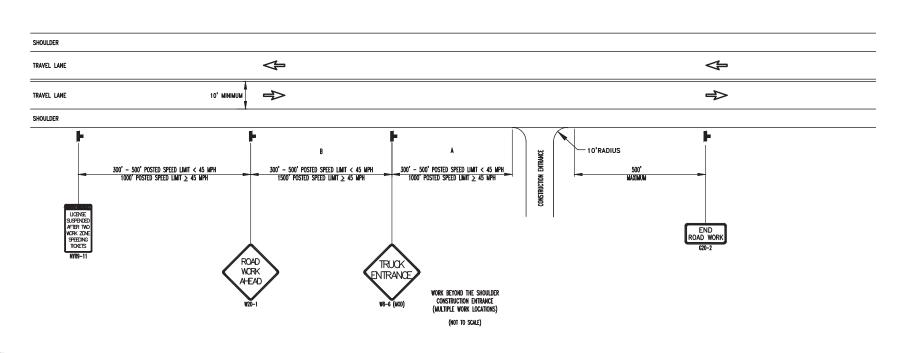


#### MOTES:

- 1. WHEN CROSSWALKS OR OTHER PEDESTRIAN FACILITIES ARE CLOSED OR RELOCATED, TEMPORARY FACILITIES SHALL BE DETECTABLE AND SHALL INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING FACILITY.
- 2. WHERE HIGH SPEEDS ARE ANTICIPATED, A TEMPORARY TRAFFIC BARRIER AND TEMPORARY IMPACT ATTENUATOR SHOULD BE USED TO SEPARATE THE TEMPORARY SIDEWALKS FROM VEHICULAR TRAFFIC.
- 3. ONLY THE WORK ZONE TRAFFIC CONTROL DEVICES RELATED TO PEDESTRIANS ARE SHOWN. OTHER DEVICES, SUCH AS LANE CLOSURE SIGNING OR ROAD MARROWS SIGNS (W5-4), MAY BE USED TO CONTROL VEHICULAR TRAFFIC.
- 4. FOR NIGHTTIME CLOSURES, FLASHING WARNING LIGHTS SHALL BE USED ON BARRICADES SUPPORTING SIGNS AND CLOSING SIDEWALKS.
- 5. SIGHS SUCH AS KEEP RIGHT (LEFT) SHALL BE PLACED ALONG A TEMPORARY SIDEWALK, WHERE APPLICABLE AND ACCORDING TO AMERICAN WITH DISABILITIES STANDARDS, TO GUIDE OR DIRECT PEDESTRIANS.
- 6. TYPE II BARRICADES MAY BE SUBSTITUTED FOR TYPE III BARRICADES AS PER MYSDOT 619 STANDARD SPECIFICATIONS.

SPECTRA ENERGY ALGONQUIN INCREMENTAL MARKET (AIM) HANOVER AND STONY POINT LIFT AND RELAY TTC DETAIL #4 SIDEWALK DETOUR SHORT OR INTERMEDIATE TERM STATIONARY 2-LANE 2-WAY ROADWAY	SCALE N/A	Partners. Algorquin Gas Transmission, LLC 5400 Westsiner Court Human, TX 77006-5110 713475-5400  Hatch Mott	DRAWN BY: HMM 03/05/2014 CHECKED BY: HMM APPROVED BY: HMM REV. DATE: REVISION:
ROCKLAND COUNTY, NEW YORK		PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY	DESC: ISSUE FOR REVIEW DWG:





#### NOTES:

- 1. WHEN THE DISTANCE BETWEEN THE ADVANCE WARNING SIGNS AND WORK IS 2 MILES TO 5 MILES, A SUPPLEMENTAL DISTANCE PLAQUE (W7-3a) SHOULD BE USED WITH THE ROAD WORK AHEAD SIGN (W20-1).
- 2. IN THOSE SITUATIONS WHERE MULTIPLE WORK LOCATIONS EXIST WITHIN A LIMITED DISTANCE MAKE IT PRACTICAL TO PLACE STATIONARY SIGNS, THE DISTANCE BETWEEN THE ADVANCE WARNING SIGN AND WORK SHALL NOT EXCEED 5 MILES.
- 3. IN THE CASE WHERE A CONSTRUCTION ENTRANCE IS WITHIN THE LIMITS OF A LANE CLOSURE OR ROAD CLOSURE. THE TRAFFIC CONTROL ARRAY AND SIGNAGE SHALL FOLLOW THE LANE OR ROAD CLOSURE UNTIL THE ASSOCIATED WORK HAS BEEN COMPLETED. IF THE CONSTRUCTION ENTRANCE IS REQUIRED AFTER SUCH WORK HAS BEEN COMPLETED, THE LANE OR ROAD CROSSING TRAFFIC CONTROL ARRAY AND SIGNAGE SHALL BE REPLACED BY DETAIL TTC #6.

SPECTRA ENERGY ALGONQUIN INCREMENTAL MARKET (AIM) HANOVER AND STONY POINT LIFT AND RELAY TTC DETAIL #6 WORK BEYOND THE SHOULDER CONSTRUCTION ENTRANCE

ROCKLAND COUNTY, NEW YORK

Spectra Energy) DRAWN BY: HMM 03/05/2014 Partners. CHECKED BY: APPROVED BY: Hatch Mott REV. DATE: MacDonald 150 Lower Weetfield Rd. Holyoke, MA 01040 Ph: (413) 535-0135 Fext (413) 535-0136 REVISION: ISSUE FOR REVIEW PRELIMINARY FOR REVIEW ONLY 05/16/2014 SPECTRA ENERGY PROPRIETARY DESC: DWG:

НММ

нмм

SCALE

N/A

**Updated Traffic Management Assessment and Plans for the West Roxbury Lateral** 



# Algonquin Gas Transmission, LLC

# ALGONQUIN INCREMENTAL MARKET PROJECT

Updated Traffic Management Assessment and Plans for the West Roxbury Lateral

**May 2014** 



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## 1.0 INTRODUCTION

Algonquin Gas Transmission, LLC ("Algonquin"), an indirect, wholly-owned subsidiary of Spectra Energy Partners, LP, is seeking authorization from the Federal Energy Regulatory Commission ("FERC" or "Commission") pursuant to Section 7(c) of the Natural Gas Act<sup>1</sup> ("NGA") to construct, install, own, operate, and maintain the Algonquin Incremental Market Project ("AIM Project" or "Project") which will involve expansion of its existing pipeline systems located in New York, Connecticut, Rhode Island and Massachusetts.

Within the Commonwealth of Massachusetts, Algonquin will install approximately 5.1 miles of new pipeline lateral from its existing I-4 System Lateral in Norfolk and Suffolk counties to provide National Grid with the service it has requested ("West Roxbury Lateral"). The West Roxbury Lateral will consist of approximately 4.2 miles of new 16-inch diameter pipeline and approximately 0.9 miles of new 24-inch diameter pipeline in the Towns of Westwood, Dedham and the West Roxbury section of the City of Boston.

In response to comments from the FERC, Massachusetts Energy Facilities Siting Board, landowners and other stakeholders, Algonquin has retained Vanasse Hangen Brustlin, Inc. ("VHB") to provide traffic engineering consulting services in support of the proposed Project facilities in Massachusetts. Algonquin is committed to working with each municipality along the Project limits to address potential transportation-related impacts associated with constructing the proposed pipeline.

This updated Traffic Management Assessment and Plans ("TMP") supplements the initial plan that was filed with the FERC on February 28, 2014 for this Project. This current updated version includes detailed current traffic counts at key locations along the Project corridor with associated analysis. This TMP includes a summary of existing traffic conditions along the roadways where the construction will take place and information regarding general traffic management strategies. Based on the research conducted to date, this report summarizes the currently proposed construction schedule, hours of operation, and provides representative traffic management plans that will be implemented during construction. The traffic management plans to be implemented during construction were developed considering observed traffic volumes and patterns, existing roadway geometry and traffic control, and measures to maintain appropriate access to abutting residents and businesses.

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<sup>&</sup>lt;sup>1</sup> 15 U.S.C. § 717f(c) (2006).



### 2.0 PROJECT DESCRIPTION

The construction work on the West Roxbury Lateral is planned to commence in May 2015 at selected locations following the issuance of all necessary approvals, and is expected to be completed by November 2016. To expedite the completion of the Project, weekday working hours between 7 AM and 7 PM are desirable. However, Algonquin recognizes that these hours may not be possible for all portions of the Project due to traffic management with consideration of abutting residential and commercial properties, and that night working hours may be required for some areas of the Project. To minimize the duration of construction, work may occur simultaneously in multiple areas as multiple dedicated construction crews are expected to be working on the Project. For each portion of the Project involving work in public roadways traffic management plans will be required to help ensure general public safety and to maintain appropriate traffic flow. In addition to measures to address motor vehicles, considerations also will be made for pedestrians, bicycles, and construction workers. As such, Algonquin will continue to work closely with the various municipalities and public agencies involved, as well as residential and commercial stakeholders that may be affected by the Project.



# 3.0 EXISTING TRAFFIC CONDITIONS

This TMP includes detailed current traffic counts at key locations along the Project corridor with associated analysis. The first step in conducting a traffic data collection effort was to review currently available data to help determine the most critical locations within the Project limits in terms of traffic management. This preliminary traffic count information was obtained from a variety of sources, including the MassDOT traffic count database, municipal websites and recent traffic studies prepared for development projects or roadway improvements in the area. Due to the age of some of this information updated traffic counts were required at multiple key locations within the Project study area as described in the following section. The updated traffic count data and expected roadway configurations during construction have been reviewed to identify the general operating conditions that can be expected. This effort includes evaluating level-of-service for key study area roadways or intersections both under existing conditions and during construction. As part of this effort, data from MassDOT's "Standard Details and Drawings for the Development of Traffic Management Plans" have been reviewed to determine how the observed volumes compare to the expected roadway capacities during construction.

#### 3.1 Traffic Volumes

Traffic volumes (i.e. vehicles, pedestrians, bicyclists) for the study area roadways and intersections were collected manually and mechanically by VHB to provide a basis from which to evaluate traffic conditions. In May 2014, VHB conducted Automatic Traffic Recorder counts (ATRs) for a 72-hour period along the following study area roadways:

- Elm Street Dedham between Providence Highway and Legacy Place driveway
- Providence Highway Dedham between Legacy Boulevard signal and Best Buy/Star signal
- East Street Dedham north of High Street
- High Street Dedham east of East Street
- Washington Street Dedham between Lower East Street and Oak Street
- Grove Street West Roxbury south of Centre Street
- Centre Street West Roxbury south of Spring Street

The observed volumes on these roadways, and the manner in which the volumes vary over the course of a typical weekday and Saturday, are summarized in Table 1.

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MassDOT "MassHighway Standard Details and Drawings for the Development of Temporary Traffic Control Plans"; <a href="http://www.massdot.state.ma.us/portals/8/docs/flaggers/tcp.pdf">http://www.massdot.state.ma.us/portals/8/docs/flaggers/tcp.pdf</a>. Accessed February 2014.



Table 1
Observed Variations of Traffic Volumes

	Weekday <sup>1</sup>	Hourly Traffic Range <sup>2</sup>			Commute	er Hours <sup>3</sup>	Saturday	Hour	ly Traffic	c Range <sup>2</sup>
Location	Daily	Low	High	Average	AM Peak	PM Peak	Daily	Low	High	Average
Dedham:										_
Elm Street										
Eastbound	6,309	146	640	390	284	640	7,736	120	696	517
Westbound	<u>8,636</u>	240	698	545	<u>500</u>	<u>661</u>	<u>10,768</u>	181	950	687
Total	14,945	386	1,301	936	784	1,301	18,504	301	1,603	1,204
Providence Highway										
Northbound	24,178	1,294	1,735	1,545	1,634	1,735	25,667	646	1,993	1,633
Southbound	22,542	558	1,790	1,377	<u>1,098</u>	<u>1,789</u>	<u>23,669</u>	579	1,925	1,548
Total	46,720	1,992	3,524	2,921	2,732	3,524	49,336	1,225	3,826	3,181
East Street	1,981	67	161	124	141	161	2,298	38	208	152
High Street	16,181	796	1,362	1,101	1,221	1,362	14,522	465	1,089	954
Washington Street										
Northbound	11,358	513	802	692	661	795	11,976	250	926	704
Southbound	<u>9,827</u>	431	766	628	<u>576</u>	<u>766</u>	<u>10,698</u>	388	817	702
Total	21,185	944	1,561	1,320	1,237	1,561	22,674	638	1,687	1,405
West Roxbury										
Grove Street	8,569	402	724	597	682	724	7,266	229	589	478
Centre Street	7,282	331	637	513	577	637	6,219	190	506	400

Source:

Automatic Traffic Recorder (ATR) Counts conducted in May 2014.

Manual turning movement counts ("TMCs") also were collected at key signalized study area intersections where traffic flow may be affected by some travel lanes being temporarily unavailable during construction. The TMCs were collected at the study area intersections on a typical weekday from 7 AM to 9 AM and from 4 PM to 6 PM. Additional TMCs also were conducted during a midday off-peak period 11 AM to 1 PM for use in evaluating the feasibility of conducting construction during regular working hours but outside of the peak commuter time periods.

# 3.2 Traffic Management Strategy

Based on the automatic traffic recorder ("ATR") counts noted in the previous section, traffic flow within the study area remains relatively constant throughout the day. Given the consistently high volumes of traffic along certain study area roadways, it is important to maintain reasonable traffic flow in all directions throughout the day. Detours are not expected to be necessary, and all turning movements at

<sup>1</sup> average daily traffic volume expressed in vehicles per day

<sup>2</sup> volumes expressed in vehicles per hour and report low, high and average hourly traffic volumes between 7:00 AM and 7:00 PM. Volumes for northbound and southbound sections of Providence Highway do not necessarily add up to match total, as low- and high-volume conditions for the median-divided roadway may occur at different times.

<sup>3</sup> volumes expressed in vehicles per hour and report commuter peak hour traffic between 7:00 AM – 9:00 AM (AM Peak) and between 4:00 PM – 6:00 PM (PM Peak).



intersections shall be maintained so that businesses and traffic patterns are not significantly impacted. However, lane closures and lane shifts are expected to occur at various times throughout the duration of construction for the Project. Therefore, the TMP for this Project has been developed with the goal of reducing the existing roadway cross-sections by no more than one lane (on multi-lane roadways) during regular working hours, with a primary goal being to prevent unnecessary delays to the motoring public. For the purposes of this Project, regular working hours are expected to be 7:00 AM to 7:00 PM when allowable by traffic conditions and as permitted by the various agencies and municipalities having control over the affected roadways. Any work that is to occur during peak traffic hours (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM) will be coordinated in advance with MassDOT, Westwood, Dedham and/or West Roxbury. Maintaining two-way traffic flow also shall be closely coordinated with maintaining pedestrian accessibility, as well as providing access for businesses and residents. The traffic management plan developed and analyzed for this Project addresses the major aspects of construction. The following provides more details on the traffic management plan for the corridor.

For the purpose of this assessment, the Project was considered in the following five general representative segments:

- 1. East Street (Westwood) northerly to Providence Highway/Elm Street (Dedham)
- 2. Providence Highway at Elm Street northerly to Eastern Avenue
- 3. Eastern Avenue to Washington Street
- 4. Washington Street to Grove Street (West Roxbury)
- 5. Grove Street and Centre Street to Spring Street

General traffic conditions within each of these general areas are discussed in the following sections based on observations and updated traffic data collection.

## 3.3 East Street (Westwood) northerly to Providence Highway at Elm Street (Dedham)

The majority of the construction work in Westwood extending into the southerly portion of Dedham will occur on private property and not within public roadways. The southerly limits involve work on private property south and adjacent to the East Street rotary above Route I-95 in Westwood. The Project will cross the East Street, which is two-lane 30-foot wide roadway, just south of the section under MassDOT jurisdiction. Based on 2012 traffic counts<sup>3</sup>, and projections for growth in this area, this road should carry approximately 16,500 and 9,500 vehicles per day ("vpd") on a typical weekday and Saturday, during the 2015/2016 construction seasons. Regardless, that crossing is expected to occur via underground boring beneath the roadway so that no traffic management will be required along this roadway.

After crossing East Street, the proposed pipeline will run south of and adjacent to Route I-95 before crossing underneath the Route I-95 highway roughly 900 feet to the north of East Street. Based on counts by MassDOT<sup>4</sup> Route I-95 carried approximately 139,439 vpd in 2012. As the pipe installation will occur underneath the highway via trenchless construction without any lane closures being needed on Route I-95. Specific traffic management plans have been prepared for the work in the vicinity of the Route I-95 South Exit 14 ramp and accompany this submittal. Based on record traffic counts from MassDOT<sup>5</sup>, this ramp is estimated to carry approximately 7,000 vehicles on a typical weekday.

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<sup>&</sup>lt;sup>3</sup> <u>University Station – Traffic Impact Study</u>; TetraTech / VAI (November 2012).

<sup>&</sup>lt;sup>4</sup> MassDOT "Transportation Data Management System"; <a href="http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod">http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod</a>=; Accessed February 2014.

<sup>&</sup>lt;sup>5</sup> Ibid.



After crossing the highway, the pipeline will continue to Rustcraft Road in Dedham, which is a local two-lane road ranging from 28- to 32-feet in width. As the roadway alignment curves to the northeast the road is named Elm Street. The road has a general 36- to 38-foot width before flaring to a roughly 70-foot width at its intersection with Providence Highway (formerly known as Route 1). The Legacy Place shopping center is located north of and adjacent to Elm Street. Residential homes and an apartment building also are located along this road. The segment adjacent to the shopping center generally has a single eastbound lane and two westbound lanes.

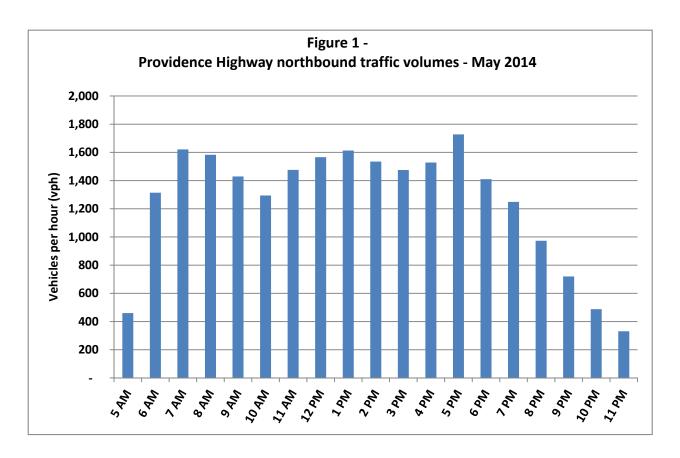
Site-specific traffic management plans for the two-lane Rustcraft Road/Elm Street sections, and the multilane road section near the Providence Highway/Elm Street intersection have been included with this submittal. These reference drawings may be further refined following additional consultation with Westwood and Dedham, along with MassDOT and affected abutters. Based on automatic traffic recorder counts conducted by VHB in May 2014, Elm Street currently carries approximately 14,945 and 18,504 vpd on a typical weekday and Saturday, respectively. These counts were conducted to the west of the Legacy Place driveway on Elm Street and, as such, include volumes generated by that retail center as well as other nearby uses. As is discussed in Section 4.5.1, Algonquin has agreed to several construction mitigation measures after consulting with Legacy Place and other stakeholders to substantially reduce the associated traffic management needs in that area.

The observed hourly volumes summarized above also were compared to the roadway capacities which will be available in conjunction with the traffic management plans. This comparison is discussed in detail later in the "Traffic Management Plans" section of this report.

## 3.4 Providence Highway at Elm Street northerly to Eastern Avenue (Dedham)

Within the Project study area Providence Highway is a median-divided roadway carrying up to three travel lanes in each direction, with additional turning lanes provided at select locations. The roadway is under MassDOT jurisdiction. The segment of this roadway in the vicinity of Legacy Place was reconstructed as part of the construction of that shopping center in 2009. As part of this current evaluation, VHB conducted ATR counts on Providence Highway to the north of Legacy Boulevard for a continuous 72-hour period including a typical weekday and Saturday. The counts indicate that this roadway currently carries approximately 46,720 vehicles on a typical weekday. However, possibly due to the concentration of retail and restaurant uses along this corridor Friday volumes were observed to be higher, with approximately 49,050 vehicles traveling on this segment. Likewise, Saturday volumes were slightly higher with 49,336 vehicles observed on Providence Highway. The pipeline installation along this road segment is planned to occur entirely on the northbound side of the median-divided roadway. Accordingly, the hourly weekday volumes along this segment were reviewed as summarized in Figure 1.





As shown in Figure 1, northbound volumes on this roadway begin to increase significantly starting at 6 AM on a typical weekday. The volumes decline slightly from 9 AM to 11 AM before steadily climbing through the evening commuter peak period. These observed volumes also were compared to the Providence Highway capacity that will be provided while the traffic management plans are in place for this segment. This comparison is discussed in detail later in the "Traffic Management Plans" section of this report.

# 3.5 East Street to Washington Street (Dedham)

Just north of Providence Highway's intersection with Eastern Avenue the proposed pipeline will shift off of the road and onto private property. This will occur immediately north of the driveway to the Staples retail center. From that point, work will extend across private property until the pipeline crosses High Street and continues to the north along East Street. The work is then planned to continue along East Street to its intersection with Washington Street.

The High Street/East Street intersection along this route was recently reconstructed and signalized. While two-way traffic is allowed for almost the entire length of the roadway, East Street is one-way heading northbound at its intersection with Washington Street. As such, the observed southbound traffic on this roadway is associated solely with the uses along this roadway. Based on May 2014 ATR counts conducted for this evaluation East Street currently carries 1,981 vehicles on a typical weekday, which is consistent with prior counts in this area. Saturday volumes on this roadway were observed to be slightly higher, with 2,298 vehicles observed over the course of the Saturday counted. ATRs counts also were conducted on High Street immediately east of High Street as part of this evaluation. The counts indicate



that High Street currently carries approximately 16,181 and 14,522 vehicles on a typical weekday and Saturday, respectively.

While the volume along this two-lane locally owned roadway is lower than other portions of the Project additional considerations will be required to minimize impacts to abutters. Site-specific traffic management plans have been developed for East Street and the proposed crossing at the High Street/East Street intersection and are discussed in more detail in the "Traffic Management Plans" section of this report.

# 3.6 Washington Street to Grove Street (West Roxbury)

At the northerly end of the East Street work, the construction will shift across a grassed area to the east of Washington Street. This proposed route will help to minimize impacts to the Washington Street/East Street/Dedham Mall signalized intersection. At that point, the route will cross Washington Street onto Lower East Street where it will cross Mother Brook and continue on Post Lane before intersecting Washington Street again. From that point, the gas line route will continue along the center/northerly side of Washington Street to Grove Street.

Starting in 2009, Washington Street was reconstructed from Providence Highway to the Boston City line. Following the completion of the right-of-way process, jurisdiction of this road will be transferred from MassDOT to the Town of Dedham. The portion of this roadway in Boston will continue to remain under City control unaffected by this change. Updated traffic counts conducted as part of this current Project assessment indicate that Washington Street currently carries 21,185 and 22,674 vehicles on a typical weekday and Saturday, respectively. Peak hour volumes ranged from 1,600 vph to 2,200 vph during the respective weekday morning and evening peak hours. Additional discussion regarding the observed traffic volumes relative to the planned traffic management plans is provided later in this assessment.

#### 3.7 Grove Street and Centre Street to Spring Street (West Roxbury)

The pipeline installation will continue from Washington Street onto Grove Street continuing to the north. This two-lane local roadway is under City of Boston jurisdiction and is characterized by its residential nature. As part of this study, VHB conducted ATR counts on Grove Street to the south of Centre Street. The counts indicate that this roadway currently carries approximately 8,569 and 7,266 vehicles on a typical weekday and Saturday, respectively. ATR counts also were conducted on the northerly segment of this roadway after it transitions from Grove Street into Centre Street. The counts on this segment are slightly lower, with 7,282 and 6,219 vehicles observed on a typical weekday and Saturday, respectively. Site-specific traffic management plans depicting the expected temporary lane shifts are provided attached to this submittal. The traffic management plans developed will allow for two-way traffic flow on this segment throughout construction.

#### 3.7.1 West Roxbury Crushed Stone quarry

The West Roxbury Crushed Stone quarry is located east and adjacent to Grove Street opposite Centre Street. Algonquin is not aware for any planned physical changes to this active facility which is expected to continue its regular quarry activity. However, the quarry has recently been discussing changes to onsite activity involving fill being accepted from area construction projects. Based on discussions between Algonquin and quarry representatives, between 100 and 150 trucks currently visit the quarry on a typical day. This translates into roughly 200 to 300 truck trips on a typical weekday. The single unit trucks are generally 18- to 20-feet in length, though there are a limited number of trailers leaving the site which are up to 32-feet long. This trucking activity is generally confined to March through December with that volume dropping by 50- to 60- daily trucks during the winter months. The first four or five trucks



generally begin to exit the facility starting at 7:30 AM, with relatively constant departures occurring until about 1:30 PM after which exiting traffic decreases notably. In addition to this truck traffic there are also approximately 17 to 25 workers traveling to and from this site on a typical workday. These workers area generally on-site from 6 AM to 5 PM on weekdays, and 6 AM to noon on Saturdays. The facility is not in operation on Sundays.

VHB also conducted manual turning movement counts at the intersection of Grove Street/Centre Street with the quarry driveway. The counts were conducted on Thursday May 8, 2014 during from 7 AM to 9 AM, 11 AM to 1 PM, and 4 PM to 6 PM. The peak one-hour period for the quarry during the time period observed occurred between 8 AM and 9 AM. During this time, 24 vehicles entered the site while 25 exited. Approximately 80-percent of these trips were made by trucks with the remainder being employees or visitors to the site. As noted above, activity decreased throughout the day with 20 vehicles entering and 17 exiting between 11 AM and 12 noon, with over 80-percent of that traffic being trucks. By the later afternoon, only 9 employee vehicles were observed exiting the site between 4 PM and 5 PM.

Site-specific traffic management plans have been developed along Grove Street and Centre Street in this area and are discussed in detail later in this evaluation. These measures include provisions in the placement of traffic control devices to allow for quarry trucks to access and egress that site with minimal delay to help minimize impacts to that site and the surrounding neighborhood.



# 4.0 COORDINATION WITH AGENCIES / MUNICIPALITIES / PROJECT STAKEHOLDERS

Algonquin has continued to consult with multiple public agencies and other stakeholders in the area. Specifically, Algonquin is coordinating with officials from the Towns of Westwood and Dedham, and the City of Boston on an ongoing basis. Algonquin also has met several times with representatives of MassDOT.

The following sections provide a general summary of these initials discussions regarding the traffic management aspects of the Project.

#### 4.1 Town of Westwood

As noted earlier, the majority of the construction work in the Town of Westwood will occur on private property and not on Town roads. However, in addition to discussions concerning general construction activity within the Town, Algonquin also has discussed the AIM work proposed to cross East Street near the Route I-95 rotary. While the planned work within the Route I-95 state highway layout is under MassDOT jurisdiction, the nature of this work also was discussed. To date, an introductory meeting was held with the Westwood Department of Public Works ("DPW") and the Police and Fire Chiefs on July 18, 2013. At a subsequent meeting on December 9, 2013, the Conservation Commission requirements were discussed along with general outreach plans for abutters and other interested parties. Additional meetings with the various town departments involved will occur as the Project advances through the federal and state permitting processes.

#### 4.2 Town of Dedham

Algonquin has met with representatives of the Town of Dedham to discuss construction plans within Dedham. An initial meeting was held with the Dedham Engineering Department and Fire Department on July 18, 2013 to discuss general construction activity, potential working days/hours, and traffic management. Particular attention was given to measures to minimize potential impacts to residents and commercial entities in the area. The Town's road repair/restoration requirements relative to the Project also were reviewed as part of these discussions. Most recently, Algonquin met with the Town of Dedham DPW Director and Director of Engineering on December 9, 2013. At this meeting the Town requested that a traffic study be provided, and the need for both Dedham and MassDOT approval of appropriate working hours within portions of Providence Highway was discussed. The Conservation Commission requirements and Board of Selectmen requirements (for potential off-peak works hours) also were reviewed. Algonquin will continue to coordinate with the Town of Dedham throughout the remainder of the planning and construction processes.

# 4.3 City of Boston

Algonquin team had an introductory meeting with City representatives on July 10, 2013 to provide a general Project overview. The Project was discussed in greater detail at a subsequent July 25, 2013 meeting attended by representatives of the Boston DPW and Boston Transportation Department ("BTD"), as well as the Boston Mayor's Office West Roxbury Coordinator.

The general plans for construction activity and traffic management along the Washington Street and Grove Street corridors were discussed. The City placed a particular emphasis on the need to address potential concerns of local residents, schools and businesses along these roadways. Further meetings will be held with BTD and the Boston Department of Public Works as the construction plans are further



refined. This Project also has been entered in the City of Boston Utility Coordination "COBUCS" database so that long-term planning for the timing of this Project relative to other planned projects in the area can begin.

#### 4.4 MassDOT

As Route I-95 and portions of Providence Highway are state highways under MassDOT jurisdiction, Algonquin has met with the MassDOT District 6 office in Boston on multiple occasions. To date, Algonquin has met with MassDOT staff on July 22, 2013 to discuss general traffic management protocol, potential permitting needs associated with the construction, and other transportation-related matters. An additional meeting was held on December 2, 2013 to discuss these matters in greater detail, and Algonquin will continue this coordination to refine the traffic management plans if needed as the Project advances.

# 4.5 Project Stakeholders

In addition to the agency/municipality coordination outlined above, Algonquin also has engaged various other commercial stakeholders along the affected corridor. The following section provides a summary of this coordination, which will continue throughout the FERC review process and subsequent construction.

# 4.5.1 Legacy Place Shopping Center - Dedham

Following the December 3, 2013 public hearing on the Project, Algonquin and Legacy Place arranged to meet to discuss the planned construction in detail. This meeting with the management of the Legacy Place shopping center was held at the National Amusements offices in Norwood, Massachusetts on January 27, 2014. Algonquin's current proposal for construction activity in this area was presented, with input, thoughts and concerns of Legacy Place being discussed at length. A follow-up meeting to continue these discussions was held on March 11, 2014. Following this dialogue, the following general construction conditions were agreed upon between Algonquin and Legacy Place:

- (1) Pipeline installation at Legacy Place's Elm Street driveway will be by trenchless construction, with no disturbance of the road surface or interference with traffic flow.
- (2) Pipeline installation across Legacy Boulevard to the east of Providence Highway likely will be by open trench construction, provided that (a) all work will take place between the hours of 12AM and 8AM, and (b) at least one paved lane for each turning movement will be maintained at all times.
- (3) Pipeline installation across the southerly Legacy Place driveway at Providence Highway (between LL Bean and P.F. Chang's China Bistro restaurant) likely will be by trenchless construction, provided that agreement is reached on a sufficient staging area to be used for this work. Algonquin may also present an open trench construction option for this driveway which would include the same time restriction and access condition noted in No.2 above.
- (4) The Algonquin and Legacy Place teams will meet again within approximately one month after the completion of associated geotechnical survey work to go over the design details and construction methods for the above driveway crossings, the site specific traffic and access management plan for Legacy Place, and related matters.

Algonquin is committed to continued coordination with Legacy Place, and other abutters in this area, throughout the remainder of the permitting and construction process.



# 4.5.2 West Roxbury Civic and Improvement Association

Algonquin attended the December 11, 2013 meeting of the West Roxbury Civic and Improvement Association. Approximately thirty local residents were in attendance. The meeting included a summary of the Project with input, concerns, and general input from local residents being provided. In addition to traffic, construction constraints associated with the nearby West Roxbury Crushed Stone quarry were discussed along with the general safety and integrity of the proposed pipeline.



# 5.0 TRAFFIC MANAGEMENT PLANS

General traffic management plans have been developed and included as part of this submittal. The plans were developed following standards contained in the Manual on Uniform Traffic Control Devices ("MUTCD")<sup>6</sup>. While not all of the affected roadways are under MassDOT jurisdiction, MassDOT's "Standard Details and Drawings for the Development of Traffic Management Plans" also were reviewed. These resulting plans are expected to be implemented for the majority of the work areas. However, additional site-specific traffic management plans are required for certain key areas where unique conditions or constraints exist. The following section provides a summary of the attached traffic management plans.

#### 5.1 Pedestrian Accommodations

Currently there are varying degrees of pedestrian activity within the Project area, with the busier sections being located in the residential areas of Dedham and West Roxbury. For those areas where sidewalks will need to be closed on a temporary basis, a proposed pedestrian bypass is provided within the standard details of the traffic management plans. Pedestrian access will be maintained on the same side of the roadway and temporary wheelchair ramps will be provided to ramp the pedestrians from the existing sidewalk to the roadway. The pedestrians will be separated from the travel lanes by drums. If the width is not sufficient to accommodate traffic and pedestrian activity, then pedestrians will be directed to cross to the sidewalk on the opposite side of the street or at the closest adjacent intersection.

In addition, the work being performed is in an area where there are concentrated sections of predominately retail and commercial business uses. Accordingly, the intent of the traffic management plan for this Project is that access to all properties must be maintained at all times. Safe and ready means of ingress and egress to all stores and shops, public and private and professional offices and any other businesses or residences in the project area, both day and night, shall be provided for the project duration. If the access needs to be restricted for a short period of time, the contractor shall coordinate with the owner to determine an acceptable time to perform the work.

#### 5.2 Bicycle Accommodations

Currently, there is limited bicycle activity within the Project area. Based on field observations conducted as part of this assessment, most of this activity is oriented towards residential uses at the southerly limits of the Project along Elm Street, and further to the north in West Roxbury. Bicyclists currently share the road within the Project study area as shoulder width is minimal and there are not any separate bicycle facilities currently in place. Therefore, bicycles will be accommodated within normal vehicular traffic.

#### 5.3 Lane Shifts and Closures

The following describes the traffic management details that may be used during construction. These plans are depicted in the detailed traffic management plans accompanying this submittal. As all roadways that are expected to be impacted by construction provide a variety of general configurations (i.e., multilane, median-divided, etc.) construction activity will be accomplished through one, or a combination, of the described lane closure/shift details.

<sup>&</sup>lt;sup>6</sup> U.S. Department of Transportation Federal Highway Administration, Manual on Uniform Traffic Control Devices, 2009 Edition; Washington DC, December 2009.



One-lane closure details shall be used in instances where there is a cross-section of two-lanes or more in a single direction and work needs to be performed within or along the edge of the roadway. It is expected that construction for the majority of the study area will be accomplished using this traffic set-up. As this detail will reduce the overall cross section and number of lanes, the roadway capacity would be impacted on a temporary basis as shown in Table 2.

Table 2
Arterial Work Zone Capacities

	Tra	Hourly affic Ran	ige <sup>1</sup>	Traffic Management Plan Capacity <sup>2</sup>				
Location	Low High Average			Lanes <sup>3</sup>	Ideal Average Capacity <sup>4</sup>	Meets MassDOT <sup>5</sup>		
Dedham:								
Elm Street (westbound)	240	698	545	2 to 1 (WB)	1,340	Yes		
Providence Highway (northbound)	1,294	1,735	1,545	3 to 2 (NB)	2,980	Yes		
Providence Highway (northbound)	1,294	1,735	1,545	3 to 1 (NB)	1,170	No		
Providence Highway (northbound)	1,294	1,735	1,545	2 to 1 (NB)	1,340	No		
East Street	67	161	124	2 to 1	1,340	Yes		
Washington Street (northbound)	513	802	692	2 to 1 (NB)	1,340	Yes		
Washington Street (southbound)	431	766	628	2 to 1 (SB)	1,340	Yes		

Source: Automatic Traffic Recorder (ATR) Counts conducted in May 2014.

Notes: NA = the traffic management plan is Not Applicable (NA) for this section

1 Volumes expressed in vehicles per hour and report low, high and average hourly traffic volumes (by direction) between the hours of 7:00 AM and 7:00 PM.

As the required details will reduce the overall cross section and number of lanes, the roadway capacity in certain areas will be impacted on a temporary basis. The streets where this condition is applicable all have adequate capacity to accommodate a single lane closure during the off peak periods as planned. The only exception to this is on the northerly segment of Providence Highway, where work during evening hours will be required to address the limited available capacity in that area.

## 5.3.1 Elm Street (Dedham) – one lane closure

For the majority of its length adjacent to the Legacy Place shopping center in Dedham Elm Street has a single eastbound lane and two westbound lanes. The pipeline installation is proposed to occur on the westbound side of the roadway which will require the lane closure treatment shown in the accompanying plans. As noted above, these plans are intended to show Algonquin's general approach to traffic management for a variety of representative conditions. The Elm Street single-lane closure plan is

<sup>2</sup> Traffic management plans provided accompanying this evaluation.

<sup>3</sup> Indicates the cross sectional change for the corridor; i.e. 2 to 1 indicates that 2 travel lanes will be reduced to 1 travel lane during construction

<sup>4</sup> Ideal Average Lane Capacity values obtained from FIGURE Gen-1, GENERAL GUIDELINES, Standard Details and Drawings for the Development of Traffic Management Plans, prepared by MassDOT.

<sup>5</sup> Indicates whether this section of the corridor will meet the MassDOT guidelines for Average Lane Capacity in a work zone.



primarily focused on the area extending from the Legacy Place driveway to just south of the Providence Highway/Elm Street intersection. For the two-lane segment of Elm Street to the south of the Legacy Place driveway traffic will be managed using similar treatments to those discussed for Grove Street and Centre Street later in this section. As there is no on-street parking on Elm Street and fewer private driveways than on those roadways there should be additional flexibility in how traffic is managed in this area.

While the capacity of a single lane can generally range from 1,400 to 1,600 vph, the capacity in work zones is further reduced. However, as these volumes are well below the standard capacity level work-hour limitations should not be necessary strictly from a volume standpoint. Regardless, the Project team will continue to work with the Town of Dedham and the abutting businesses and residents to determine the exact appropriate work hours and schedule. It is expected that work in the vicinity of the Providence Highway/Elm Street intersection will occur during evening hours to minimize disruptions to traffic flow.

#### 5.3.2 Providence Highway (Dedham) – lane closures

The pipe installation adjacent to the Legacy Place shopping center will occur on the right shoulder/sidewalk area of the northbound lanes. To the north of Legacy Boulevard the work will shift to the center lane for approximately 700 feet which will require the traffic management plan shown. The remainder of the work will be in the right-lane/shoulder area which will require a MassDOT standard single-lane closure treatment. Historically, MassDOT's general practice in this area has been to limit weekday construction to between the hours of 9 AM and 3 PM. However, with the required time for construction set up and other factors it could be more productive and less disruptive for traffic flow to limit work hours to times outside of the peak periods discussed earlier. As shown earlier in Table 2, the average hourly volume on the northbound side of Providence Highway on a typical weekday between 7 AM to 7 PM is approximately 1,545 vpd. Volumes during the weekday morning and evening peak hours are higher, with 1,634 and 1,735 vph observed, respectively. When two lanes are closed the available capacity would be approximately 1,170 vph. Accordingly, to maximize the length of available working hours for a given day it may be desirable for work to occur during overnight hours which, given the commercial nature of the Project area, should have minimal impact on adjacent properties. There are residential abutters located to the west of the northerly segment of the Providence Highway work area. For that roughly 1,500 segment to the south of Eastern Avenue construction may need to be limited to daytime hours, but outside of the commuter peak periods as to be defined by MassDOT. The general traffic management treatments anticipated to be used for other segments of the Project study area are discussed below.

# 5.3.3 East Street (Dedham) – single lane closure

East Street in Dedham is a two-lane residential roadway between High Street and Washington Street. Due to the narrow width of the roadway it will not be possible to maintain continuous two-way travel during most construction. Instead, traffic flow will alternate in both directions separately under police officer detail/flagger control using the traffic management plan shown. Provisions will be in place for emergency access at all times including steel plates for access to residential driveways.

# 5.3.4 Washington Street (Dedham/West Roxbury) – single lane closure

Similar to Providence Highway, Washington Street is a median-divided multi-lane roadway. However, work on this segment will generally occur adjacent to the median on the southbound side of the roadway. Traffic for this condition will be managed using the traffic management plan shown. As this corridor is near capacity during peak periods construction working hours may need to be limited to end prior the weekday evening peak period, or with other limitations. The exact work schedule and hours for construction will be discussed with the Town of Dedham and City of Boston as part of the ongoing



Project coordination. Representative traffic management plans depicting the expected temporary lane closures on Washington Street are provided attached to this submittal.

#### 5.3.5 Grove Street (West Roxbury)

The majority of the approximately  $0.5\pm$  miles of work within Grove Street will be on the northerly side of the roadway. The attached plans depict the required lane shifts for this work with accompanying police detail/flagger control. Some on-street parking spaces in certain areas will need to be temporarily removed for portions of construction as shown. These plans may be refined further both during the permitting process and during construction as needed to help ensure that impacts to abutting residents are minimized. Understanding the limited available on-street parking in this area Algonquin will implement measures to minimize the number of construction workers needing to drive to this area and park their own vehicle.

#### 5.3.6 Centre Street (West Roxbury)

The remaining 0.70+ miles of work from Centre Street's intersection with Grove Street to Spring Street will be similar to that along Grove Street. Accordingly, the traffic management will be similar for both segments. As with Grove Street the traffic management plans will continue to be refined to meet the needs of residents along this roadway. Similar to Grove Street, Algonquin will implements measures to minimize construction worker traffic and parking impacts to this area.

#### 5.4 Traffic at Intersections

The majority of the intersection work within the study area will be constructed by maintaining at least one lane on all approaches where work is proposed. If a lane needs to be closed, this work shall be conducted during off-peak conditions so that traffic flows are not constrained at the study area intersections. Details illustrating the traffic management plan for intersections are included in the traffic management plans accompanying this submittal. Traffic operations at key locations where capacity will be affected temporarily are discussed later in this section. The following sections summarize the analysis methodology used at these locations to evaluate traffic operations at intersections during construction.

#### 5.4.1 Level of Service and Delay Criteria

The evaluation criteria used to analyze area intersections in this traffic study are based on the 2000 Highway Capacity Manual ("HCM")<sup>7</sup>. The term 'Level of Service' ("LOS") is used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay and freedom to maneuver. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

In addition to LOS, two other measures of effectiveness ("MOEs") are typically used to quantify the traffic operations at intersections; volume-to-capacity ratio (v/c) and delay (expressed in seconds per vehicle). For example, an existing v/c ratio of 0.9 for an intersection indicates that the intersection is operating at 90 percent of its available capacity. A delay of 15 seconds for a particular vehicular movement or approach indicates that vehicles on the movement or approach will experience an average additional travel time of 15 seconds. For a given LOS letter designation there may be a wide range of

Transportation Research Board, Highway Capacity Manual, Washington, D.C., 2000.



values for both v/c ratios and delay. Comparison of intersection capacity results therefore requires that, in addition to the LOS, the other MOEs should also be considered.

The LOS designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus, the LOS designation is for the critical movement exiting the side street, which is generally the left turn out of the side street or site driveway. Table 3 shows the LOS criteria for both signalized intersections and unsignalized intersections.

It should be noted that the analytical methodologies typically used for the analysis of unsignalized intersections use conservative analysis parameters, such as long critical gaps. Actual field observations indicate that drivers on minor streets generally accept shorter gaps in traffic than those used in the analysis procedures and therefore experience less delay than reported by the analysis software. The analysis methodologies also do not fully take into account the beneficial grouping effects caused by nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delays at unsignalized intersections in the study area. Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

Table 3 Level of Service Criteria

Level of Service	Delay – Signalized Intersection	Delay – Unsignalized Intersection				
A	0 to 10 seconds	0 to 10 seconds				
В	10 to 20 seconds	10 to 15 seconds				
C	20 to 35 seconds	15 to 25 seconds				
D	35 to 55 seconds	25 to 35 seconds				
E	55 to 80 seconds	35 to 50 seconds				
F	Greater than 80 seconds	Greater than 50 seconds				

Source: 2000 Highway Capacity Manual Exhibits 16-2 and 17-2.

#### 5.4.2 Signalized Intersection Capacity Analysis

Capacity analyses were conducted for key signalized study area intersections where intersection capacity will be reduced on a temporary basis. For comparison purposes, this analysis was conducted for both current conditions and the temporary conditions involving lane closures at intersections that will occur during construction. A summary of this analysis is presented below in Table 4.



**Table 4 Signalized Intersection Capacity Analysis** 

		2014 Ex	isting		2015 Construction				
Intersection	<u>V/C<sup>c</sup></u>	<u>Delay<sup>b</sup></u>	<b>LOS</b> <sup>a</sup>	95 <sup>th</sup> % Queue <sup>d</sup>	<u>V/C</u>	<b>Delay</b>	LOS	95 <sup>th</sup> % Queue	
High Street at East Street / High Street									
Weekday AM									
Harris Street EB LTR	0.39	35.6	D	50	0.20	19.81	В	68	
High Street WB L	0.94	44.4	D	#371	N/A	N/A	N/A	N/A	
High Street WB TR	0.37	16.7	В	137	1.13	95.2	F	#757	
High Street NB LT	0.05	10.8	В	31	0.07	16.8	В	35	
High Street NB RT	0.20	2.7	A	14	0.20	10.1	В	38	
East Street SB LTR	0.03	10.7	<u>B</u>	<u>21</u>	0.06	<u>16.5</u>	<u>B</u>	<u>25</u>	
Overall	0.53	25.7	C		0.75	63.6	E		
Weekday Midday									
Harris Street EB LTR	0.51	28.2	C	80	0.47	20.5	C	151	
High Street WB L	0.84	31.6	C	#194	N/A	N/A	N/A	N/A	
High Street WB TR	0.27	15.9	В	81	1.18	120.3	F	#441	
High Street NB LT	0.06	8.4	A	28	0.07	11.4	В	30	
High Street NB RT	0.20	4.3	A	16	0.20	8.9	A	23	
East Street SB LTR	0.02	<u>8.1</u>	<u>A</u>	<u>8</u>	0.02	<u>11.0</u>	<u>B</u>	<u>9</u>	
Overall	0.46	19.3	В		0.68	61.9	E		
Weekday Evening									
Harris Street EB LTR	0.71	32.8	C	106	0.71	27.1	C	#266	
High Street WB L	0.89	33.5	C	#296	N/A	N/A	N/A	N/A	
High Street WB TR	0.22	12.5	В	77	1.62	311.0	F	#486	
High Street NB LT	0.07	11.1	В	33	0.07	11.4	В	33	
High Street NB RT	0.35	5.0	A	21	0.34	9.3	A	28	
East Street SB LTR	<u>0.06</u>	<u>11.1</u>	<u>B</u>	<u>21</u>	<u>0.06</u>	<u>11.3</u>	<u>B</u>	<u>21</u>	
Overall	0.61	19.6	В		0.96	127.5	F		
	I			<u> </u>					



**Table 4 Signalized Intersection Capacity Analysis** 

		2014 Ex	isting		<u>2</u>	015 Cons	truction	=
Intersection	V/Cc	<b>Delay</b> <sup>b</sup>	LOS <sup>a</sup>	95 <sup>th</sup> % Queue <sup>d</sup>	<u>V/C</u>	Delay	LOS	95 <sup>th</sup> % <u>Queue</u>
Spring Street at Centre Street/Temple Street								
Weekday AM								
Spring Street EB LTR	0.58	19.8	В	229	0.46	22.7	В	277
Spring Street WB L	0.47	10.6	В	82	0.42	13.5	В	89
Spring Street WB TR	0.43	9.9	A	180	0.39	13.2	A	205
Centre Street NB LT	0.31	29.9	C	78	1.11	126.9	C	#643
Centre Street NB R	0.79	34.5	C	#182	N/A	N/A	N/A	N/A
Temple Street SB LTR	0.32	<u>29.9</u>	<u>C</u>	<u>86</u>	0.48	64.9	<u>C</u>	<u>152</u>
Overall	0.67	18.7	В		0.68	40.9	В	
Weekday Midday Spring Street EB LTR	0.50	20.0	C	#220	0.50	20.0	C	<b>#220</b>
Spring Street WB L	0.58	20.8	С		0.58	20.8	C	#220
Spring Street WB TR	0.46	11.3	В	#106	0.46	11.3	В	#106
Centre Street NB LT	0.35	10.4	В	146	0.35	10.4	В	146
Centre Street NB R	0.11	22.0	C	35	0.53	29.4	C	126
	0.30	17.7	В	40	N/A	N/A	N/A	N/A
Temple Street SB LTR	<u>0.19</u>	<u>22.9</u>	<u>C</u>	<u>51</u>	0.20	<u>23.0</u>	<u>C</u>	<u>51</u>
Overall	0.47	15.9	В		0.55	17.1	В	
Weekday PM								
Spring Street EB LTR	0.56	21.6	C	261	0.57	19.4	В	229
Spring Street WB L	0.70	14.9	В	#211	0.47	10.6	В	82
Spring Street WB TR	0.37	8.6	A	191	0.43	9.9	A	180
Centre Street NB LT	0.35	37.1	D	66	1.49	268.5	F	#453
Centre Street NB R	0.38	23.4	C	66	N/A	N/A	N/A	N/A
Temple Street SB LTR	0.63	43.8	<u>D</u>	<u>166</u>	0.38	31.4	<u>C</u>	<u>88</u>
Overall	0.67	18.6	В		0.82	64.5	E	

a Volume-to-capacity ratio.

As shown in Table 4, High Street's intersection with East Street and Harris Street currently operates acceptably under peak-hour conditions and during a typical weekday midday period. However, the required lane closures at this intersection will temporarily impact traffic operations. The analysis indicates

b Average delay per vehicle in seconds.

c Level of Service.

d 95th percentile queue measured in feet

<sup># 95&</sup>lt;sup>th</sup> percentile volume exceeds capacity, queue may be longer

Note: Delay cannot be accurately calculated when volume-to-capacity ratio exceeds 1.20 or 1/PHF; delays can be assumed to exceed 120 seconds.

 $EB = Eastbound; \ WB = Westbound; \ NB = Northbound; \ SB = Southbound; \ B = Sout$ 

L = Left; T = Through; R = Right



that construction during the typical weekday commuter periods is not advisable, but that off-peak daytime construction is feasible through the implementation of the accompanying traffic management plans. However, as the westbound queues approaching the intersection may extend into the adjacent signalized intersection to the east, evening construction hours are desirable to minimize any impacts further if permitted by the Town of Dedham. Likewise, traffic generally operates acceptably at the Spring Street/Centre Street intersection in West Roxbury throughout the day. With the planned pipeline construction route, the northbound Centre Street right-turn lane will need to be blocked off temporarily. The analysis indicates that the intersection can still operate efficiently throughout the day, though lengthy delays are expected on the northbound Centre Street approach to this intersection. To avoid excessive delays at this location, work in the vicinity of this intersection, should end prior to the late afternoon commuter peak period.

#### 5.5 Crosswalks, sidewalks, intersections – various locations

Various portions of the Project will involve temporary closures of sidewalks or crosswalks across streets or intersections. To make sure that safe and appropriate accommodations are available for pedestrians plans have been developed for conditions typically encountered. Plans depicting traffic management during the temporary closure of lanes at the center or sides of various intersections also have been developed.

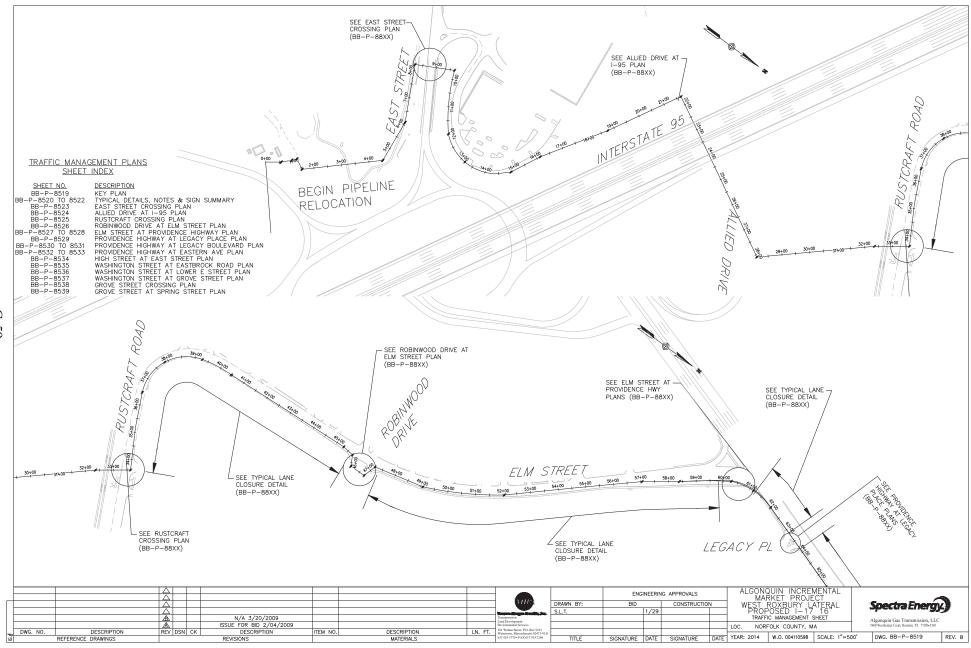


# 6.0 CONCLUSION

Algonquin has undertaken an extensive process of evaluating the traffic management measures which will be required during construction of the Project. To date, this effort has involved compiling available traffic count data and performing new traffic counts in the vicinity of the Project. The intent of this effort was to quantify existing traffic conditions, review notable traffic patterns, and to use this information to help identify appropriate working hours. Beyond the standard traffic data analysis, Algonquin also has taken the context of the surrounding area into consideration to help minimize any disruptions or impacts to nearby residences, businesses or schools. In doing so there has been an extensive ongoing community outreach and continued coordination efforts with the various municipalities and agencies involved with the Project.

In response to the thoughts and concerns of these various stakeholders, Algonquin has developed sitespecific traffic management plans that will be implemented along the Project corridor. The general traffic management principles depicted on the attached plans are expected to be carried through for each portion of the Project to help minimize any disruptions to traffic operations in the area.

West Roxl	oury Lateral Site	e-Specific Traffi	ic Management Pl	ans

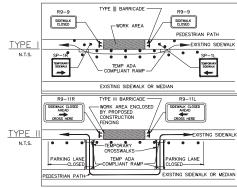


#### GENERAL NOTES

- ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AS AMENDED.
- 3. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY OF MAINTAIN ADEQUATE ABUTTER COSS AT AN TIMES. WORK MAY AND AND THE COST AND THE C
- 4. THE CONTRACTOR SHALL NOTIFY EACH ABUTTOR AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK THAT MILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS OR PARKING RESTRICTIONS, SUCH AS CONDUIT INSTALLATION, EXISTING PAYEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SMILLAR OPERATIONS.
- 5. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON TWO WAY STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT DURING WORKING HOURS, TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK, AS SHOWN.
- GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
- 7, EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 1:4 SLOPE)
- 8. 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
- 10. ALL PARKING AREAS WITHIN 400' OF WORK ZONES SHALL INCLUDE DRUMS ATTACHED WITH "NO PARKING" SIGNS. THESE SHALL BE PLACED 2 DAYS IN ADVANCE OF CONSTRUCTION.
- 11. ALL WORK SHALL BE IN COMFORMANCE OF TRENCH REGULATION 520 CMR 14.
- 12. CONTRACTOR SHALL PROVIDE PEDESTRIAN ROUTES WITH 48" MINIMUM WIDTH TO COMPLY WITH ADA REQUIREMENTS.
- 13. SPECTRA ENERGY SHALL PROVIDE AN ON SITE SAFETY INSPECTOR TO WORK WITH THE CONTRACTOR TO ASSURE THE CONTRACTOR'S COMPLIANCE WITH THESE TRAFFIC MANAGEMENT PLANS.
- 14. CONTRACTOR SHALL CARPOOL ALL EMPLOYEES. NO ON SITE EMPLOYEE PARKING WILL BE ALLOWED NEAR THE WORK ZONE.
- 15. CONTRACTOR SHALL PLACE A G20-2 (END ROAD WORK) SIGN (AT 100') FOLLOWING EACH DAILY SET UP IN EACH DIRECTION OF TRAVEL AFFECTED BY THE WORK.

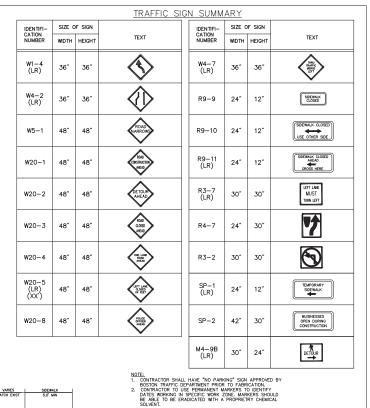
#### PEDESTRIAN BYPASS

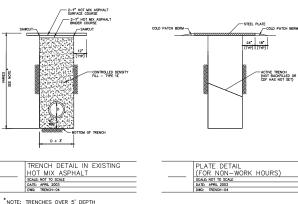
TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AND AS DIRECTED BY THE ENGINEER.



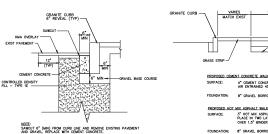
#### PEDESTRIAN BYPASS NOTES:

- 1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
- CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
   DIRECTION OF PEDESTRIAN TRAVEL.
- 5. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN STO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN SHALL BE TO ROSS PEDESTRIANS TO THE OPPOSITE SHALL BE INSTALLED TO GROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DISCREDE BY THE ENGINEER.



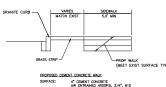


REQUIRE SUPPORT OF EXCAVATION



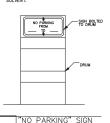
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GRANITE CURB RESET OVER TRENCH SCALE: NOT TO SCALE DATE: APRIL 2003 DWG: CURB-04

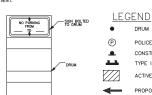


3" HOT MIX ASPHALT PLACE IN TWO LAYERS, 1.5" TOP COURSE OVER 1.5" BINDER COURSE

PROPOSED SIDEWALK RECONSTRUCTION SCALE: NOT TO SCALE DATE: APRIL 2003 DWG: CURB-04



MOUNTED ON DRIM
SCALE: NOT TO SCALE
DATE: JANUARY 2009



ACTIVE TRENCH AREA PROPOSED TRAFFIC FLOW ALTERNATING TRAFFIC UNDER POLICE DIRECTION

> SPECIAL LIGHTING UNIT (FLASHING ARROW) NTS NOT TO SCALE

POLICE OFFICER

CONSTRUCTION SIGN

TYPE III BARRICADES

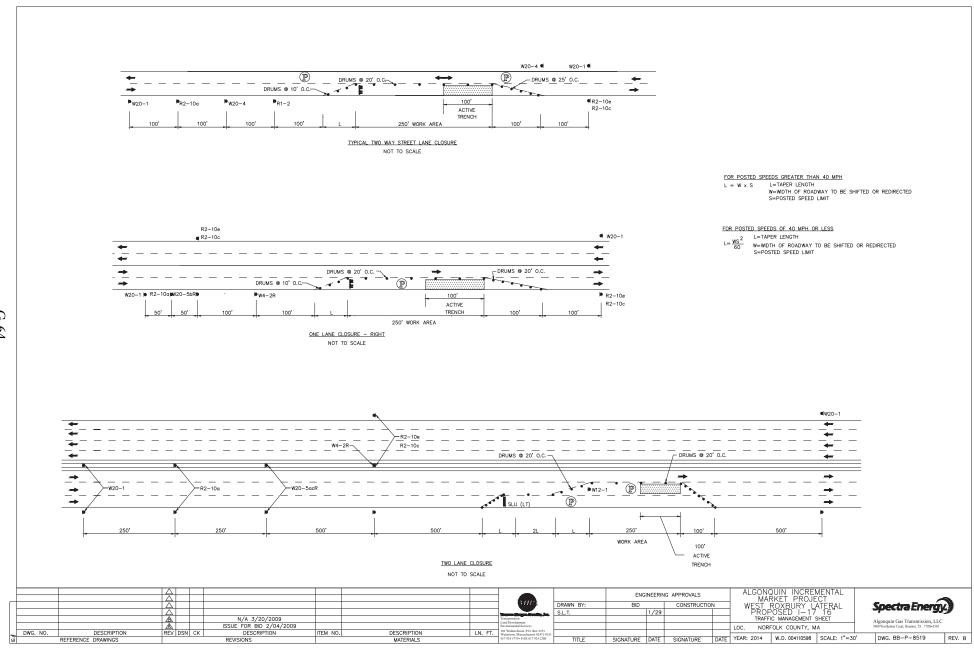
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	DWG. NO.	DESCRIPTION	REV	DSN	CK	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut S Watertown, N 617 924 1770	
5	REFERENCE DRAWINGS			REVISIONS				MATERIALS			

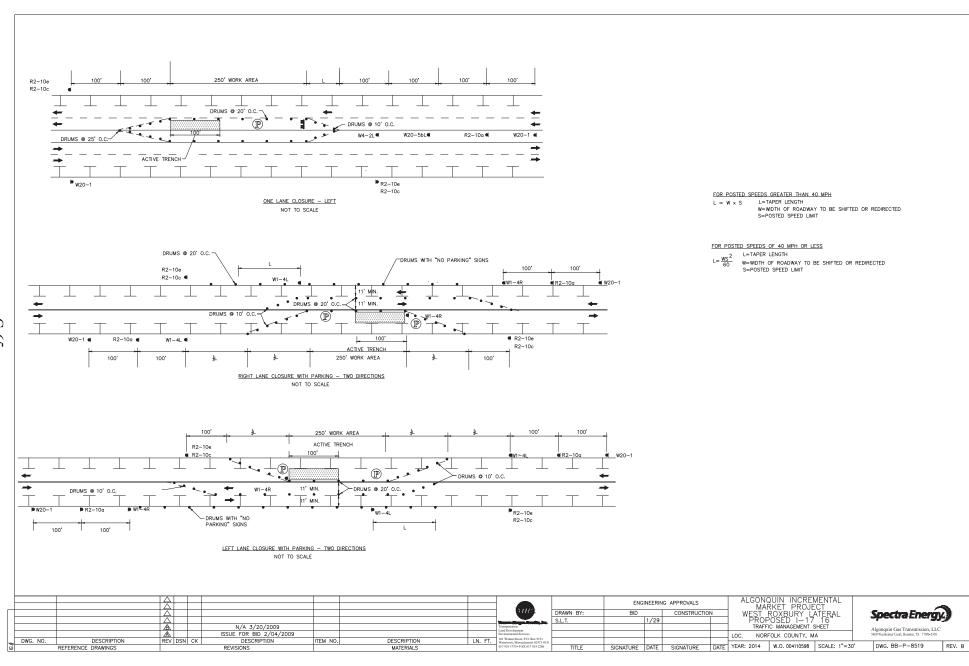
ALGONQUIN INCREMENTAL MARKET PROJECT WEST ROXBURY LATERAL PROPOSED I-17 16 ENGINEERING APPROVALS DRAWN BY 1/29 TRAFFIC MANAGEMENT SHEET NORFOLK COUNTY, MA LOC. SIGNATURE DATE SIGNATURE DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30"



REV. B

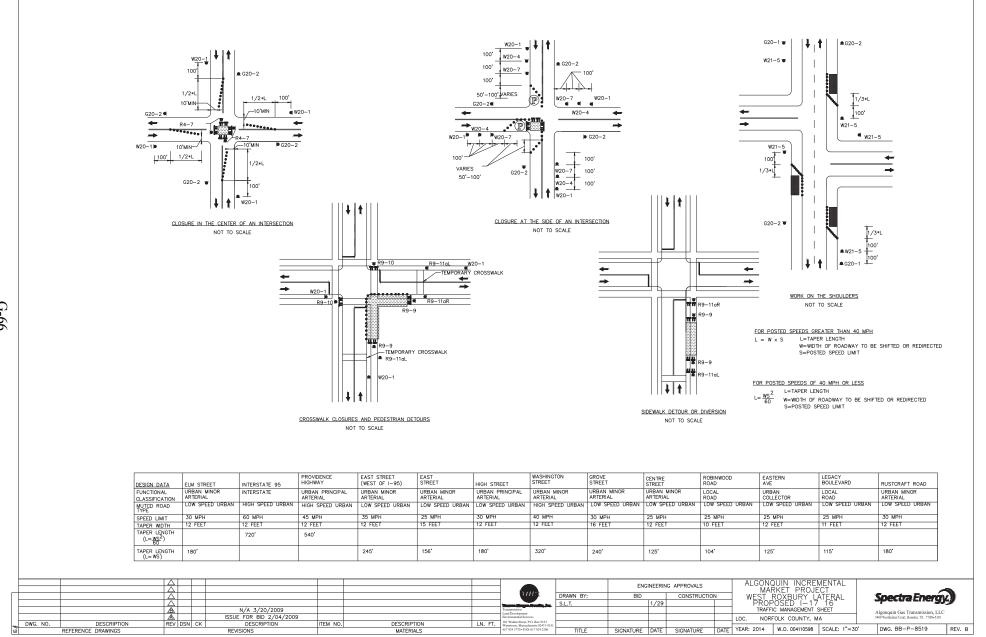
DWG. BB-P-8519





REFERENCE DRAWINGS

REVISIONS



MATERIALS

SIGNATURE DATE SIGNATURE DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30"

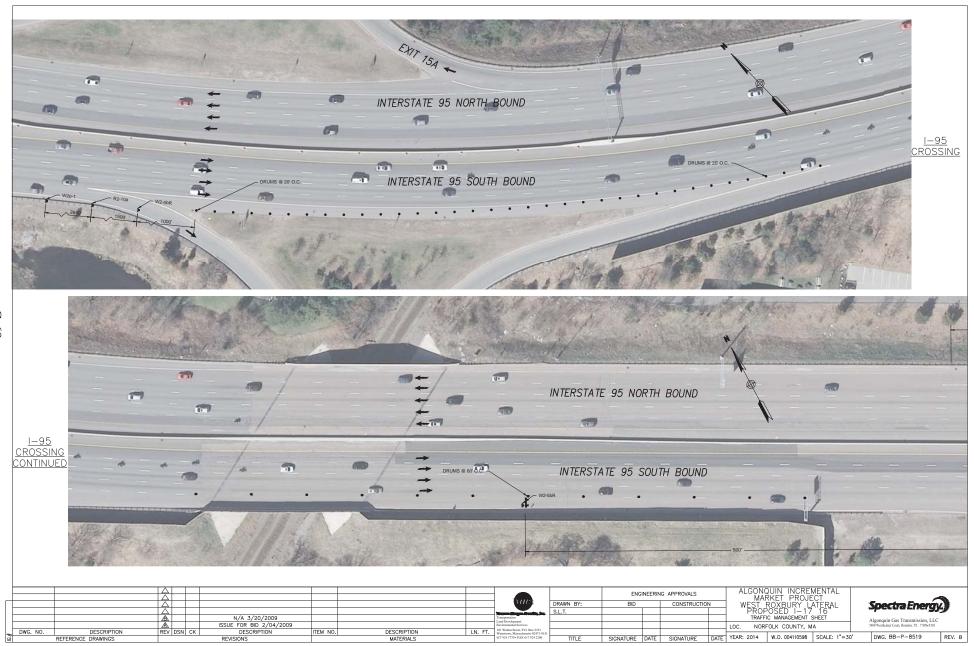
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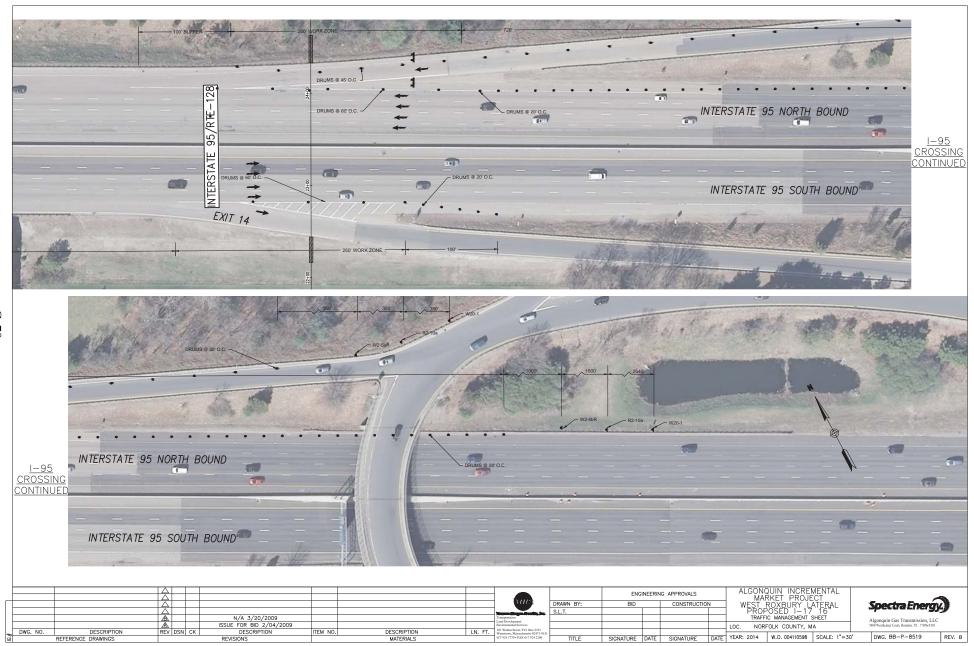
NOTE: ALL LOCATIONS WITHIN CITY OF SOMERVILLE JURISDICTION TO HAVE DRUM SPACING OF 10' O.C.

OPERATIONAL SIGNING

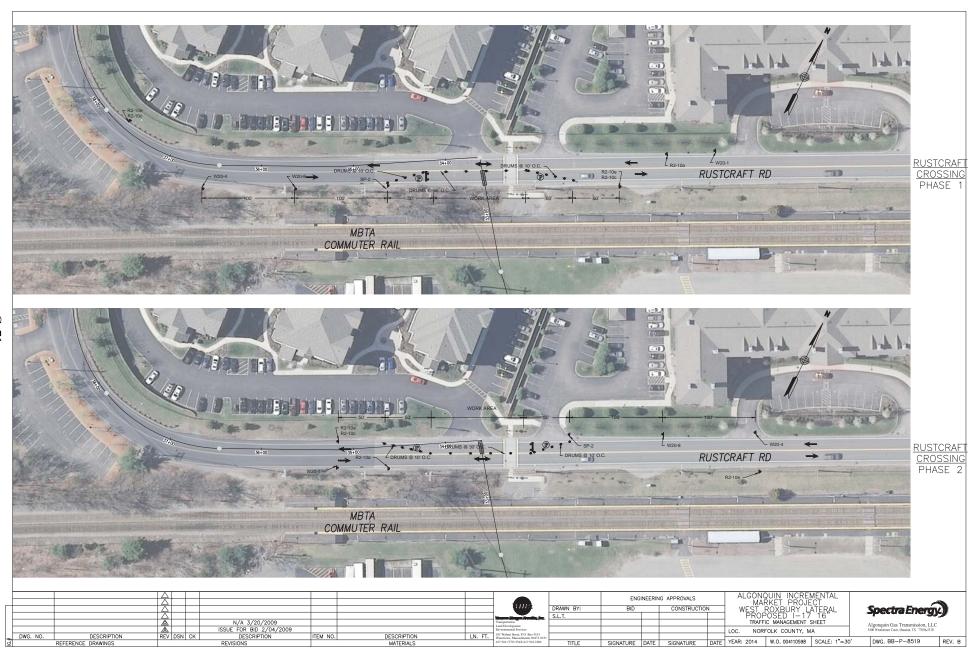




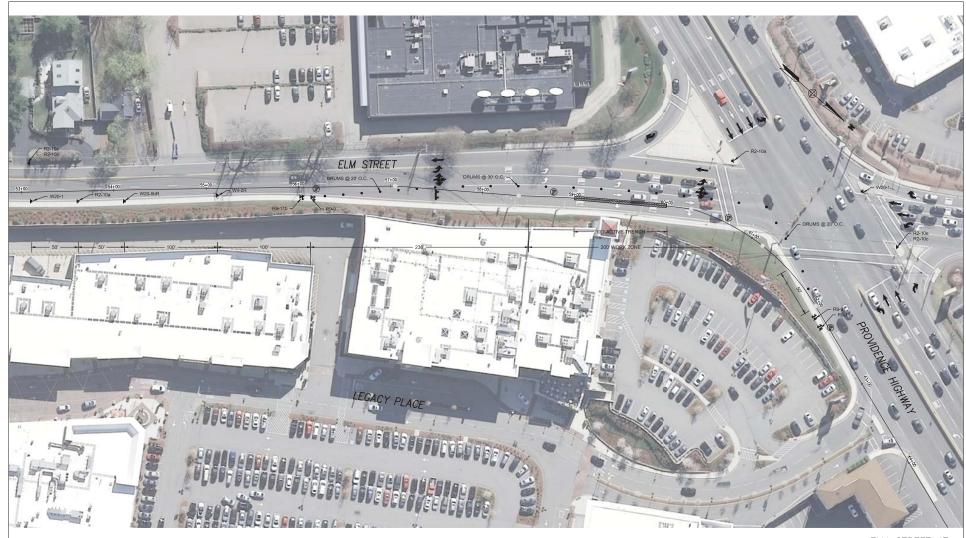






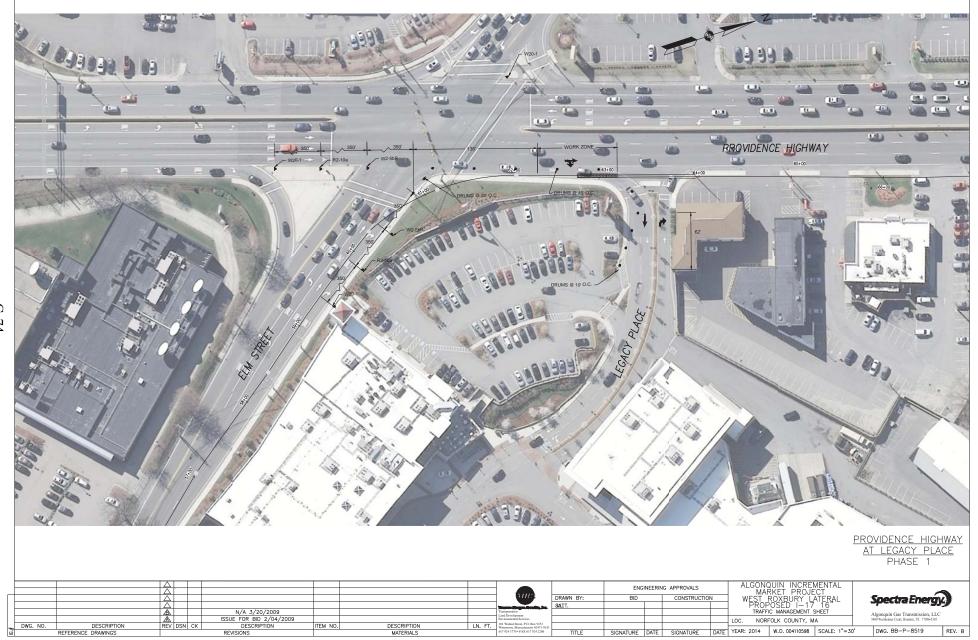


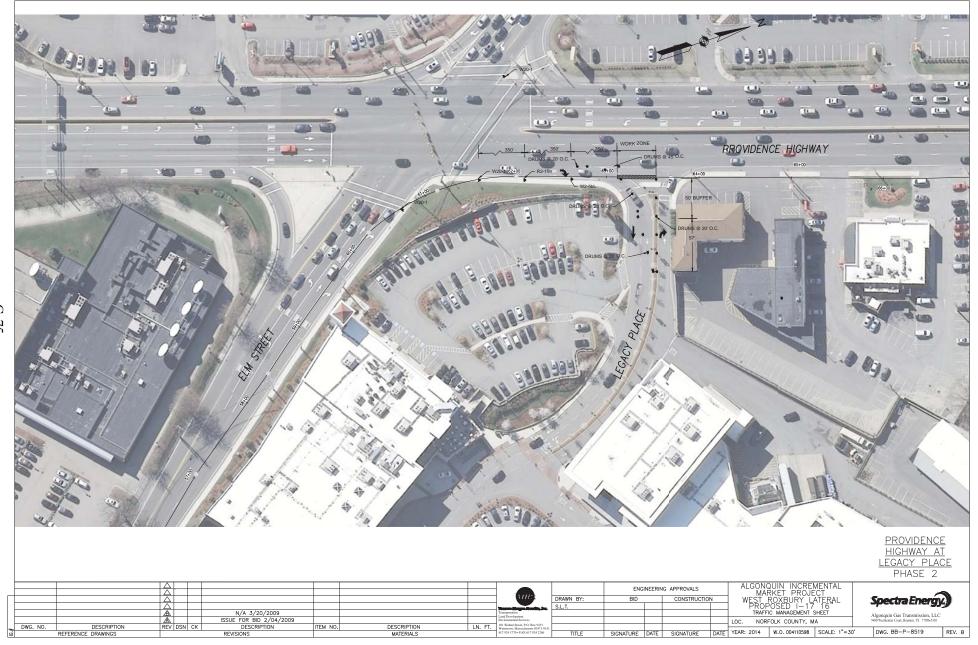




ELM STREET AT PROVIDENCE HIGHWAY PHASE 1

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巾										31118	DRAWN BY:	BID	CONSTRUCTION	. WE	ST ROXBURY LATERAL	Spectra Energy	2)
1 -				_	_	N/A 3/20/2009					S.L.T.			. F	PROPOSED I—17 16" TRAFFIC MANAGEMENT SHEET	-p	7
1 -				-	+	ISSUE FOR BID 2/04/2009	_			Land Development Environmental Services					NORFOLK COUNTY, MA	Algonquin Gas Transmission, LLC 5400 Westleiner Court Houston, TX 77056-5310	
-	DWG. NO.	DESCRIPTION	REV DS	SN C	ĸ	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-91							T
<u>છ</u>		REFERENCE DRAWINGS				REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE [	DATE SIGNATURE DATE	YEAR: 2	014 W.O. 004110598 SCALE: 1"=30	DWG. BB-P-8519	REV. B







PROVIDENCE HIGHWAY AT LEGACY PLACE PHASE 3

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$\vdash$								WIII:	DRAWN BY:	RID	CONSTRUCTION	MARKET PROJECT	Engelin Engel
1									S.L.T.	0.0	CONTONICONION	WEST ROXBURY LATERAL PROPOSED 1-17 16"	Spectra Energy.)
			A.	N/A 3/20/2009				Transportation				TRAFFIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC
1				ISSUE FOR BID 2/04/2009				Environmental Services 101 Walnut Street, P.O. Box 9151				LOC. NORFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 77056-5310
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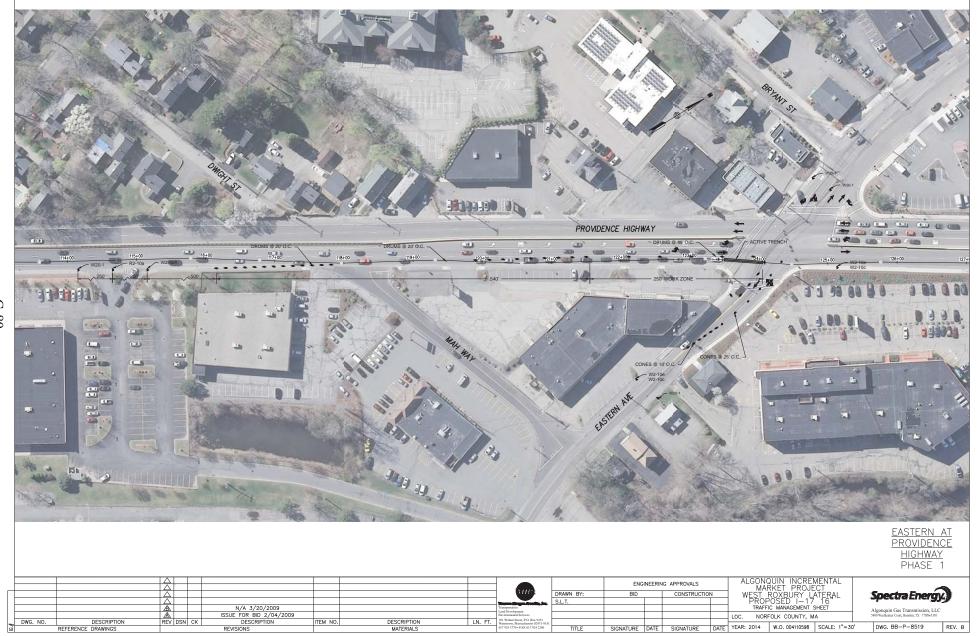
HIGH STREET AT EAST STREET PHASE 1

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<u>6</u>		REFERENCE DRAWINGS				REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE	DATE SIGNATURE DATE	YEAR: 2	014 W.O. 004110598 SCALE: 1"=30	DWG. BB-P-8519	REV. B



HIGH STREET AT EAST STREET PHASE 2

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			<u> </u>			N/A 3/20/2009				Transportation					TRAFFIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC	C
			A			ISSUE FOR BID 2/04/2009				Environmental Services				LOC.	NORFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 77056-5310	
	DWG. NO.	DESCRIPTION	REV DS	SN C	K	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-91							
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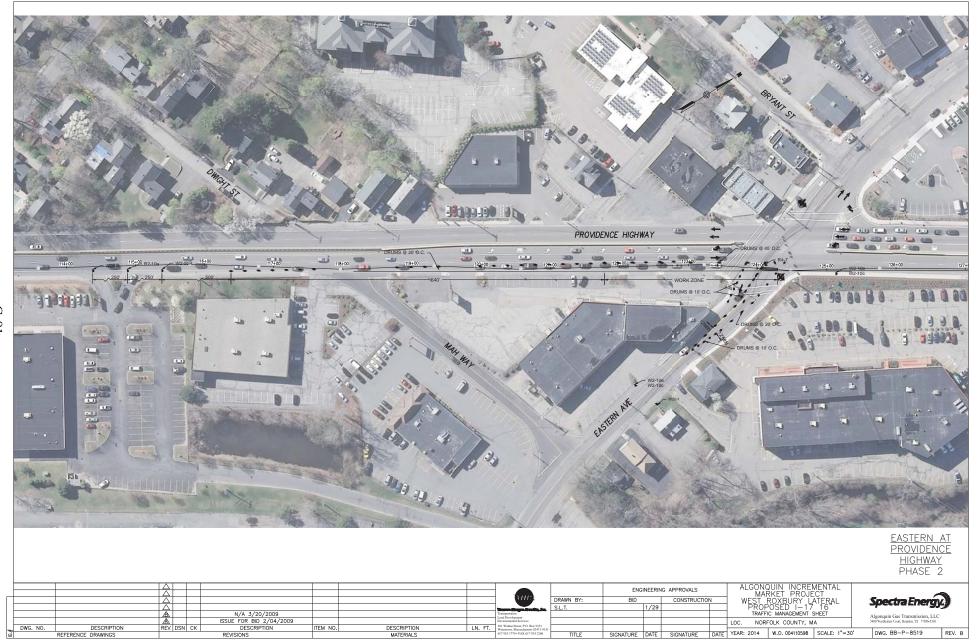
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DWG. BB-P-8519

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ITEM NO.

DESCRIPTION
REFERENCE DRAWINGS



LN. FT.

DESCRIPTION MATERIALS

ITEM NO.

LOC.

NORFOLK COUNTY, MA

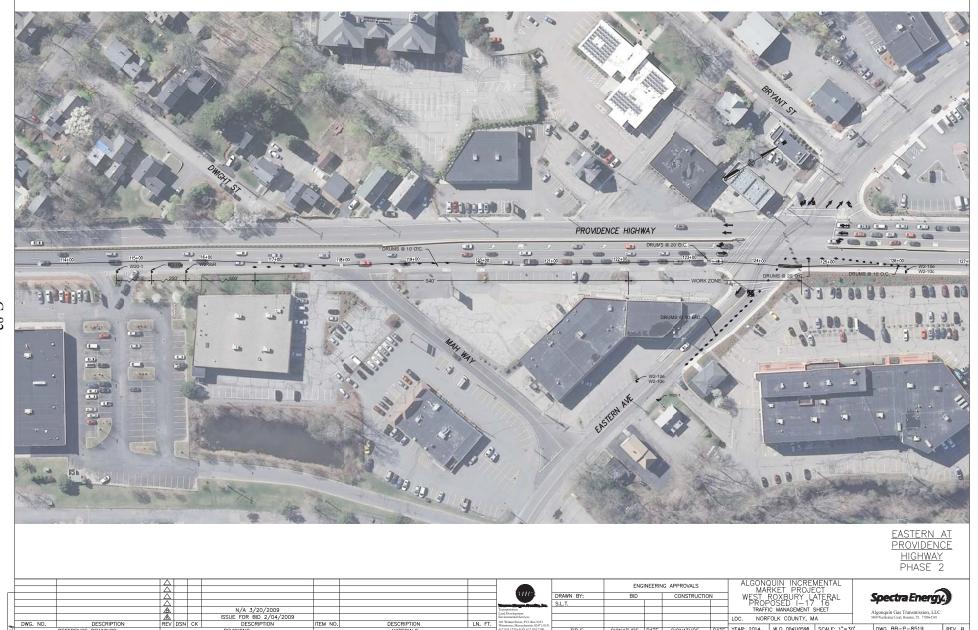
DWG. BB-P-8519

REV. B

DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30"

DWG. NO.

DESCRIPTION
REFERENCE DRAWINGS



LN. FT.

LOC.

NORFOLK COUNTY, MA

DWG. BB-P-8519

REV. B

DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30"

N/A 3/20/2009
ISSUE FOR BID 2/04/2009
DESCRIPTION
REVISIONS

ITEM NO.

DESCRIPTION MATERIALS



## WASHINGTON STREET AT EASTBROCK ROAD PHASE 1

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$\vdash$								31112	DRAWN BY:	BID	CONSTRUCTION	MARKET PROJECT WEST ROYBURY LATERAL	Spectra Energy
									S.L.T.			"PROPOSED  - 17 16"	Spectra Energy.)
1 -			<u> </u>	N/A 3/20/2009 ISSUE FOR BID 2/04/2009	_			Transportation Land Development Environmental Services				TRAFFIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC 340 Westleiner Coat, Houston, TX, 7705-5310
	DWG. NO.	DESCRIPTION	REV DSN CH		ITEM NO.		LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-9151				LOC. NORFOLK COUNTY, MA	
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## WASHINGTON STREET AT EASTBROCK ROAD PHASE 2

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			A.			N/A 3/20/2009			Transportation					TRAFFIC MANAGEMENT SHEET	Algonquin Gas	ransmission, LLC
			A			ISSUE FOR BID 2/04/2009			Environmental Services				LOC.	NORFOLK COUNTY, MA	5400 Westheimer Court,	
_ D	WG. NO.	DESCRIPTION	REV DS	SN C	K	DESCRIPTION	ITEM NO.	DESCRIPTION LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-91;							2 0510
<u>0</u>		REFERENCE DRAWINGS				REVISIONS		MATERIALS	617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE DATE	SIGNATURE DATE	YEAR: 2	014 W.O. 004110598 SCALE:	1"=30' DWG. BB-I	P-8519 REV.



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WASHINGTON STREET AT GROVE STREET PHASE 1

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										WHIE	DRAWN BY:	BID		CONSTRUCTION	l WE	ST ROXBURY LATERA	AL	Spectra Energ	N/
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			A .			N/A 3/20/2009				Transportation						TRAFFIC MANAGEMENT SHEET		Algonquin Gas Transmission, LL	C
			A			ISSUE FOR BID 2/04/2009				Environmental Services					LOC.	NORFOLK COUNTY, MA		5400 Westheimer Court, Houston, TX 77056-5310	)
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<u>0</u>		REFERENCE DRAWINGS				REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE	DATE	SIGNATURE DATE	YEAR: 20	014 W.O. 004110598 SCALE:	: 1"=30"	DWG. BB-P-8519	REV. B



WASHINGTON STREET
AT GROVE STREET
PHASE 2

											FNG	INEERING APPROVALS	ALGON			
_									-		LING		_ MA	RKET PROJECT	~	•
									1000	DRAWN BY:	BID	CONSTRUCTION	_ WEST	ROXBURY LATERAL	Spectra Energy.	<b>∠</b>
										S.L.T.		1/29	_ PRO⊩	POSED I-17 16"		9
			A		N/A 3/20/2009				Transportation				TRAFI	FIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC	
			A		ISSUE FOR BID 2/04/2009				Environmental Services				LOC. NOR	RFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 17056-5310	
	DWG. NO.	DESCRIPTION	REV DS	SN CK	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-915				-			
3		REFERENCE DRAWINGS			REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE	DATE SIGNATURE DATE	YEAR: 2014	W.O. 004110598   SCALE: 1"=30"	DWG. BB-P-8519	REV. B



GROVE STREET
CROSSING
PHASE 1

										ENGINEERIN	IG APPROVALS	ALGONQUIN INCREMENTAL	
$\vdash$								WIII:	DRAWN BY:	RID	CONSTRUCTION	MARKET PROJECT	Sparter Spare
1									S.L.T.	UID I	CONSTRUCTION	WEST ROXBURY LATERAL PROPOSED 1-17 16"	Spectra Energy.)
			Æ	N/A 3/20/2009				Transportation				TRAFFIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC
1				ISSUE FOR BID 2/04/2009	ITEM NO			Environmental Services 101 Walnut Street, P.O. Box 9151				LOC. NORFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 17056-5310
2000	DWG. NO.	DESCRIPTION	REV DSN CK	DESCRIPTION	IIEM NO.	DESCRIPTION	LN. FI.	Watertown, Massachusetts 02471-9151 617 924 1770 • FAX 617 924 2286				YEAR: 2014 W.O. 004110598 SCALE: 1"=30"	DWG. BB-P-8519 REV. B
의		REFERENCE DRAWINGS		REVISIONS		MATERIALS		61/924 1/70 * PAX 61/924 2286	TITLE	SIGNATURE DATE	SIGNATURE DATE	TEAR. 2014 W.O. 004110396 SCALE. 1 =30	DWG. DD-1-0519   KEV. B

DWG. NO.

DESCRIPTION REFERENCE DRAWINGS

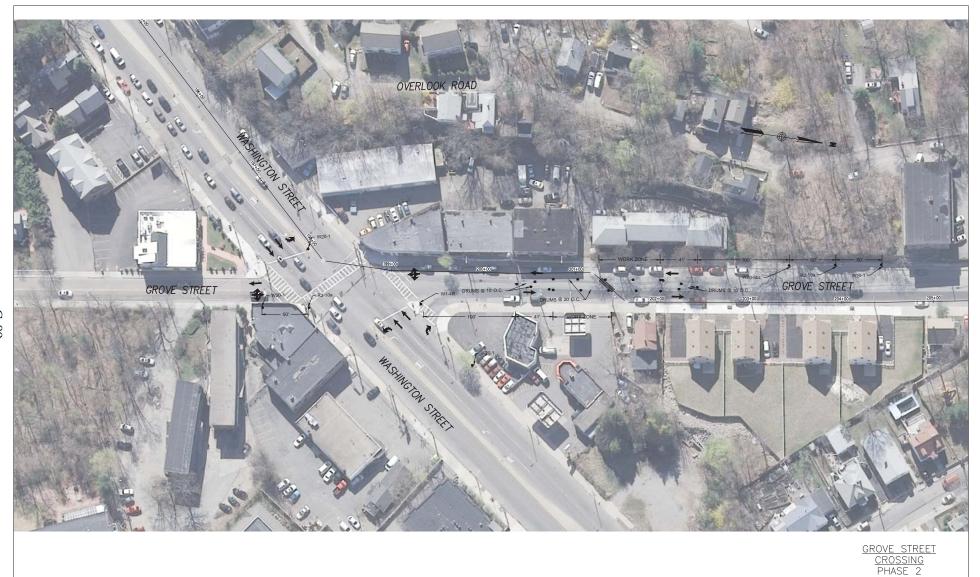
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N/A 3/20/2009
ISSUE FOR BID 2/04/2009
DESCRIPTION
REVISIONS

ITEM NO.

DESCRIPTION MATERIALS

LN. FT.



ALGONQUIN INCREMENTAL MARKET PROJECT WEST ROXBURY LATERAL PROPOSED 1—17—16 TRAFFIC MANAGEMENT SHEET ENGINEERING APPROVALS Spectra Energy LOC. NORFOLK COUNTY, MA

DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30"

DWG. BB-P-8519 REV. B



GROVE STREET
CROSSING
PHASE 3

										FNGINFERIN	IG APPROVALS	ALGONQUIN INCREMENTAL	
								-		LIVOINELINI		MARKET PROJECT	
								11118	DRAWN BY:	BID	CONSTRUCTION	WEST ROXBURY LATERAL	Spectra Energy.))
									S.L.T.			1 PRUPUSED I-1/ 16 1	-p
			A	N/A 3/20/2009				Transportation				TRAFFIC MANAGEMENT SHEET	Algonquin Gas Transmission, LLC
				ISSUE FOR BID 2/04/2009				Environmental Services				LOC. NORFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 17056-5310
-	DWG. NO.	DESCRIPTION	REV DSN CK	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-9151					DD D D510
<u>છ</u>		REFERENCE DRAWINGS		REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE DATE	SIGNATURE DATE	YEAR: 2014 W.O. 004110598 SCALE: 1"=30"	DWG. BB-P-8519 REV. B



CENTRE STREET AT SPRING STREET PHASE 1

			$\triangle$								ENGIN	IEERING APPROVALS	ALGONQUIN INCREMEN MARKET PROJECT	NTAL
									11118	DRAWN BY:	BID	CONSTRUCTION	WEST ROXBURY LATE	RAL Spectra Energy
			A							S.L.T.			PROPOSED I-17 16	
			Æ		N/A 3/20/2009				Transportation Land Development				TRAFFIC MANAGEMENT SHEE	ET Algonquin Gas Transmission, LLC
			A		ISSUE FOR BID 2/04/2009				Environmental Services				LOC. NORFOLK COUNTY, MA	5400 Westheimer Court, Houston, TX 77056-5310
	DWG. NO.	DESCRIPTION	REV DSN	V CK	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 9151 Watertown, Massachusetts 02471-915					
<u>છ</u>		REFERENCE DRAWINGS			REVISIONS		MATERIALS		617 924 1770 • FAX 617 924 2286	TITLE	SIGNATURE [	DATE SIGNATURE DATE	YEAR: 2014 W.O. 004110598 SCA	CALE: 1"=30' DWG. BB-P-8519 REV. E



CENTRE STREET AT SRING STREET PHASE 2

												FNG	INFERING	APPROVALS		NQUIN INCREMEN	NTAL		
_										4		Livo	HILLIANIO		_l M	ARKET PROJECT	·	,	
										1000	DRAWN BY:	BID		CONSTRUCTION	_ WEST	ROXBURY LATE	RAL	Spectra Energ	AV.
											S.L.T.				T PRO	OPOSED I-17 1	6" – I	-heart - 1413	ary .
			AL.		N/A	3/20/2009				Transportation					TRA	FFIC MANAGEMENT SHEE	T T	Algonquin Gas Transmission, LL	I.C.
			A		ISSUE FOR	BID 2/04/2009				Environmental Services					LOC. NO	ORFOLK COUNTY, MA		5400 Westheimer Court, Houston, TX 77056-5310	
	DWG. NO.	DESCRIPTION	REV DS	SN CI	DES	CRIPTION	ITEM NO.	DESCRIPTION	LN. FT.	101 Walnut Street, P.O. Box 915 Watertown, Massachusetts 0247	151								
<u>5</u>		REFERENCE DRAWINGS			REVISIONS			MATERIALS		617 924 1770 • FAX 617 924 22	TITLE	SIGNATURE	DATE	SIGNATURE DATE	YEAR: 2014	W.O. 004110598 SC/	ALE: 1"=30"	DWG. BB-P-8519	REV. B

DWG. NO.

DESCRIPTION REFERENCE DRAWINGS

A REV DSN CK

N/A 3/20/2009
ISSUE FOR BID 2/04/2009
DESCRIPTION
REVISIONS

ITEM NO.

DESCRIPTION MATERIALS



LN. FT.

ALGONQUIN INCREMENTAL MARKET PROJECT WEST ROXBURY LATERAL PROPOSED 1—17—16 TRAFFIC MANAGEMENT SHEET ENGINEERING APPROVALS Spectra Energy.) Algonquin Gas Transmission, LLC 5400 Westleiner Court, Houston, TX 17056-5310 LOC. NORFOLK COUNTY, MA

DATE YEAR: 2014 W.O. 004110598 SCALE: 1"=30" DWG. BB-P-8519 REV. B